

RECORDS OF THE PAST

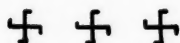
VOL. IX



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MARCH-APRIL 1910



HITTITE STELE FROM THE ENVIRONS OF RESTAN¹

IN 1902, M. A. Garcia, Engineer, chief of the third section of the line, then under construction, from Rayâk to Hamah, sent me photographs of a monument which he had discovered lying upon the right bank of the Orontes, not far from Restan, the ancient Arethuse. It was easy to recognize here, at a glance, a Hittite monument (Fig. 1). Thanks to the topographical directions which were furnished me by M. Garcia, I found the monument some months later. It is situated about 4 kilometers [$2\frac{1}{2}$ miles] down stream from Restan, not far from a barrage of modern abandoned noria, 1 kilometer [.62 mile] east of the Circassian village of Zahr el 'Asy, which faces it upon the left bank of the river. The right half, longitudinally, of the monument was lacking, but I had the good fortune to take the missing half out of the very bed of the river, where it had served as a barrage.

The stele, of grey local basalt, measures 2 meters in total height [6 ft 6.7 in.] in its present state; the part seen by M. Garcia is 45 centimeters [1 ft. 6 in.] wide and the half found by me is almost the same; the thickness is 28 centimeters [11 in.]. It is complete, except at the top, and naturally, too, but in a very limited degree, along the line of fracture. Various notches, particularly on the reverse of the stele, may be ancient, and indicate, perhaps, that the monument was used in a building; but the matter is very doubtful, for the block certainly does not occupy its original position and appears to

¹ Translated for RECORDS OF THE PAST from *Mélanges de la Faculté Orientale*, University of St. Joseph, Beyrouth, Syria, III, part 2, 1909, by Helen M. Wright.

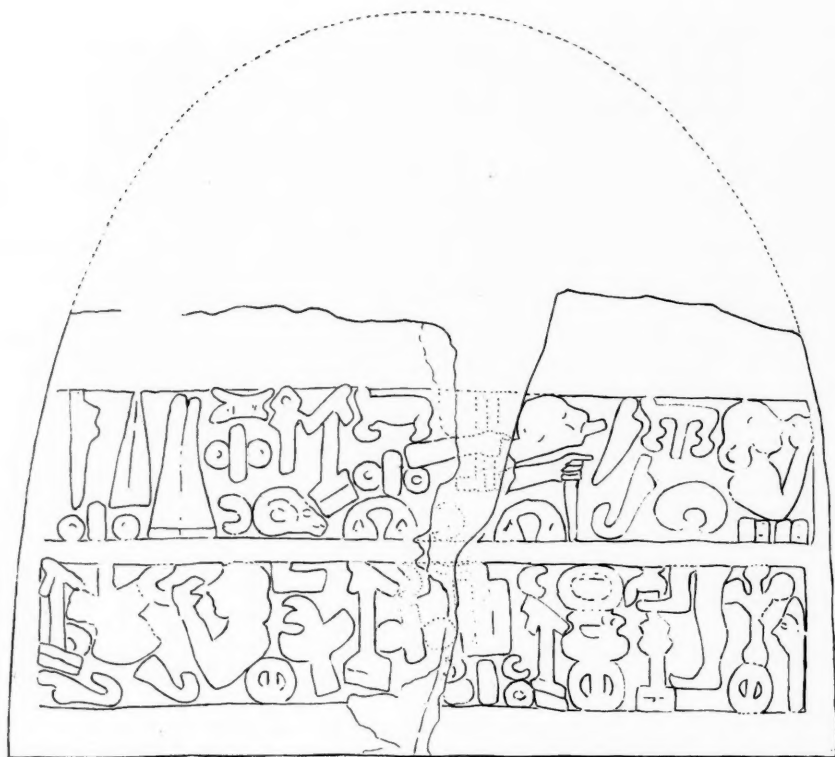


FIG. 3. RESTORATION OF THE HITTITE STELE INSCRIPTION FROM RESTAN

me to have been used elsewhere during the Byzantine period. In fact, not far from the river toward the south, there stands a small tell dating from that epoch and covering, without doubt, relics of the place inhabited or even founded by the Hittites, 15 or 20 centuries earlier.²

As we see, (Figs. 1 and 2) the inscription comprises only two lines of characters in relief, separated by a thin moulding. It is of the type of the Hamath inscription, reputed to be the most ancient up to the present time,³ better still, it reproduces a large number of the groups of signs of which the inscriptions of Hamah are composed. It is that which has encouraged me to attempt a restoration (Fig. 3) which I submit to the friendly examination of specialists.

Our stele is, at least with its epigraph, the most southern Hittite stone monument which has been recovered up to date.⁴ I believe it contemporary

² It would be very desirable to undertake methodical explorations at that point; the country is deserted, so they would be very easy to carry on, and not expensive, the tell being very small.

³ Compare in this connection the remarks of Prof. Sayce *à propos* of the inscription of Kara Dag, *Proceedings of the Society of Biblical Archaeology*, 1909, p. 83 *et seq.*

⁴ I do not know whether it is necessary to take seriously what many have said of the stele of As-Sûhihiyé from Damascus, described first by Porter, *Five Years* . . . I, p. 384, then refound by Wilson and carried to London by the Palestine Exploration Fund, cf. *Quarterly Statements*, 1889, pp. 87, 152 and 210. Conder reviewed it in the second edition of his *Syrian Stone-lore*, p. 463.

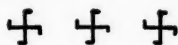


FIG. 2. THE HITTITE STELE AT RESTAN

with the stelæ of Hamah; but not having seen the originals I cannot establish conclusive material comparison. If that conjecture were confirmed, the new monument might become the touchstone for deciphering these texts, still obstinate to all consistent interpretation in spite of the firm confidence of Professor Sayce.

P. S. RONZEVALLE.

Beyrouth, Syria.



HITTITE MONUMENTS OF ARSLÂN-TÉPÉ¹

THE photographs reproduced upon page 71 were sent to me from Malatia in April, 1907, by a correspondent desiring to know what these curious sculptures represented. Their discovery, he told me in his letter, dated back to January 15th of that year and had been made accidentally upon the little hill of Arslân-tépé, at Orda-Sou, a village situated about an hour north of Malatia. Arslân-tépé, you know, has yielded more than one Hittite piece.² These new reliefs are most

¹ Translated for RECORDS OF THE PAST from *Mélanges de la Faculté Orientale*, University of St. Joseph, Beyrouth, Syria, III, part 2, 1909, by Helen M. Wright.

² Messerschmidt, *Corpus inscript. hettitic.*, p. 13; cf. 2nd *Nachtrag* [MVAG, 1906, p. 328] p. 7, pl. XLVII, which reproduces the bas-relief in basalt in the Louvre (Heuzey, *Les origines orientales de l'Art*, pl. X). My correspondent recalls having seen, at the age of 14, the bas-relief of similar style, but in limestone, preserved today in Constantinople.

Arslân-tépé (mound or hill of the lion) probably derived its name from a figure of a lion discovered or seen in the ruins; that may be one of the lions of the bas-relief above mentioned, but I would rather believe that the name made allusion to the relief which I shall mention later, in the text and the notes, or to some other sculpture representing some large isolated lion.

interesting, and although the photographs which were communicated to me are defective, it seems advisable to me to publish them without further delay. But I regret that our photogravures are so imperfect. In fact, I am obliged to specify, by short description, certain details which have almost disappeared in these reproductions. I may state, moreover, that the stones have been strongly retouched before being photographed; my correspondent informs me, indeed, that in order to show off the sculptures, they had had the unfortunate idea of smearing with black paint the free surfaces of the tablet.

These photographs were taken in the Serail itself of Malatia, where the monuments had been transported and exhibited while awaiting their departure for Constantinople.³

The 4 monuments are authentic in spite of the doubts which assailed them when I described them for the first time to the Academy of Inscriptions and Belles-Lettres. They are in limestone and of varying dimensions; it goes without saying that they are materially independent among themselves, although they were apparently made part of the same construction, temple or palace. That one which bears the god mounted upon a stag is, in its actual state, 82 centimeters high by 45 centimeters wide and 49 centimeters thick [2 ft. 8 in. by 1 ft. 6 in. by 1 ft. 7 in.]. The same block bears upon one of its edges a figure of a lion, of which my correspondent has sent me a sketch too imperfect to be published.

Each of these reliefs except the last at the right has its counterparts in the known monuments of Hittite art. The two on the left represent religious scenes. The upper tablet presents to us the figure of a beardless god, made small in order to have all entire on the same block, holding in his right hand a bow and in the other the rein of a stag upon which he is mounted. In front of the god is a beardless figure clothed in a long tunic with fringed border, holding in the right hand a lituus⁴ and in the other a vase, the contents of which he pours at the feet of the stag. That figure, apparently a priest, has no head dress; his abundant hair presents the customary large roll. Behind the priest, a small servant, with bare legs and pointed feet, brings to the sacrifice an ibex which he holds by the horns; his hair presents the same characteristic. Above the horns of the stag, are 4 or 5 hieroglyphs, giving, without doubt, the name of the god; the text continues to the right, in two indistinct groups, which represent, perhaps, the name and rank of the priest.

The second scene is the companion of the first; in place of the priest, we have a priestess, whose head is covered with a low head dress, surmounted by a long veil, which hangs down to her feet behind. With her left hand she makes a gesture of invocation, with the other pours a libation in a vase supplied with two handles and a foot and placed on the ground. The divine

³ The American Expedition from Cornell University found them still at Malatia (cf. *Orientalist. Literaturzeit.*, 1908, col. 258 and *American Journal of Archaeology*, 1908, p. 89). According to my correspondent "another stone, very large, has been subsequently transported to the Serail;" it bears a text of which he sent me a copy, too indistinct to be reproduced here. I do not believe it necessary to reproduce further his copy of other texts.

⁴ My correspondent whom I questioned about the unusual termination of the lituus, believes he sees there "a head of a goat, whose eyes only are distinguishable."



FIG. 1. HITTITE RELIEVES FROM ARSLÂN TÉPÉ

figure here appears very complex. It is furnished with wings; it is unquestionable, but it is impossible for me to explain certain of the appendages, which, at least at the right, cannot be symbols of writing. The god seems bearded, but that cannot be determined with any certainty. His left hand, held before him, holds an object entirely indistinct; the other, brought back toward the breast, holds a kind of scepter which, according to my correspondent, would have the form of a caduceus of which we see nothing but the

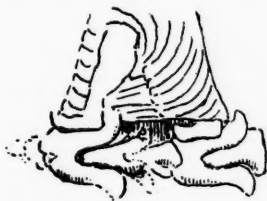


FIG. 2. OUTLINE OF BASE OF THE GOD

end. The most interesting detail, perhaps, is the support of the god. Unfortunately, our plate is very imperfect at this point, and I deem it necessary to give a reproduction in outline (Fig. 2).⁵ What can be the signification of this curious support? All things considered, I believe that it represents lightning, very much conventionalized, and I propose, pending a more extended examination, to identify it with the support still unexplained

⁵ My correspondent, whom I asked to describe the support, saw in it "two birds with tails touching each other."

of the portable *edicule* of the reliefs of Yazili-Kiaya, an *edicule* which we encounter even in Hittite writing.⁶

The third tablet is very fragmentary; two bearded figures with long rolled tresses, wearing the same costume, one following the other, the first set upon the tops of mountains, represented by little pedestals.⁷ The same figure holds with his right hand a club and with the left a staff bossed at its upper end, perhaps a lance. The second figure appears to pierce with his lance an enemy (man or beast) which touches him above the knee. The club which hangs about his elbow is noticeable.

There remains the last fragment, which constitutes for me a veritable enigma. The scrolls of the border⁸ can be only a variety of the ornament in spiral or in twist, so frequent in Anatolian art; but what is to be thought of the rest of the sculpture? In whatever direction we turn it, we do not arrive at any conclusions as to the significance of the 3 objects which seem confined in the meshes abutting on the border.⁹ It would be more prudent to wait until the monuments are taken to Constantinople where they may be studied at leisure.

Such as they are, these fragments are important for many reasons. If the date can be proved, at least approximately, the much discussed date of the sculptures of Yazili-Kiaya would be proved, and with it assured chronological data for the history of Hittite art. Besides, the preservation of these reliefs of Arslân-tépé was much better than that of the rock reliefs of Yazili-Kiaya, many details which are distinguished with difficulty upon the latter, appear here with clearness; that is true especially of the head dress and of the costume of the 4 divinities. No doubt if excavations were made at Arslân-tépé, some results very important to all Hittite antiquities would be forthcoming. It is high time to do this. According to my correspondent, many other sculptures than these which I have just described have been obtained from the ruins and have disappeared before the Turkish government could lay hands on them; with the rest of these stones have been discovered also some metal objects, particularly a silver dish. It is probable that the finds would not be very heavy; the tell is not more than 30 meters [98 ft.] high and the same in circumference, according to appearances, and it probably covers a temple or palace built upon an artificial elevation.¹⁰

For the head dress, compare Perrot, IV, p. 645, where it seems better preserved than anywhere else. The same ornamentation in ringlets is seen, besides, in our reliefs from Arslân-tépé, even upon the clubs. That makes me believe that the supposed "caduceus" of the winged god, the end of

⁶ Cf. in the latter case, Sayce, *Proceedings of the Society of Biblical Archaeology*, 1905, pp. 23, 27. I wonder whether the support of the two metamorphosed bull genii of Yazili-Kiaya might not be also a conventionalized lightning. Cf. Human and Puchstein, *Reisen in Kleinasien* . . . p. 56 and pl. IX. Upon the various forms of lightning in oriental art, cf. the original and useful work of P. Jacobsthal, *Der Blitz in d. orientalisches. u. griech. Kunst*, 1906.

⁷ As at Yazili-Kiaya.

⁸ The photograph of my correspondent includes only the two rows of the original block; there remains at the right a surface 48 cm. [1 ft. 7 in.] long, where there was no relief. It is, then, clearly a border.

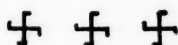
⁹ My correspondent sees here animal figures, "of which only the eyes are distinguishable."

¹⁰ After this article went to press, I read the short notice by Professor Garstang concerning the same monuments in the first part of the *Annals of Archaeology and Anthropology*, Liverpool, pp. 3-4, pl. IV-V. I am very glad that the reproductions of the English savant are better than ours; they will serve in some points as a check on my very long description.

which we do not see, is likewise a club. For the costume of the same god, I have already referred to Perrot, IV, Yazili-Kiaya, section D. For the others, it is necessary to compare not only the Hittite sculptures, but also the figures from the islands and from Asia which have been preserved for us by the monuments of Egypt. Compare W. M. Müller, *Aisen u. Europa* . . . pp. 337-368. Note an interesting detail; the hooked form of the sword, fixed horizontally at the belt of the two gods one following the other.

P. S. RONZEVALLE.

Beyrouth, Syria.



ANCIENT EGYPTIAN METHODS OF QUARRYING STONE.—

In the *Proceedings of the Society of Biblical Archaeology*, for 1909, A. F. R. Platt discusses the methods of quarrying and dressing stone which were used by the ancient Egyptians. From an early date tubular drills tipped with corundum were employed for drilling holes in the rock. Blocks were split off in the quarry probably by the expansion of wooden wedges driven dry into the drill holes and then saturated with water; possibly they also understood the method in modern use, called the feather and block wedge. One inscription states that it took 7 months to quarry two flawless blocks for obelisks. Stone sarcophagi were excavated by drilling holes as mentioned above and then breaking through the spaces between the holes. In later times, saws of bronze or hardened copper with teeth of corundum were used. Granite, bassalt, and diorite vases were chipped and polished on the outside without rotary motion and were hollowed out by grinding with stone blocks fed with sand or emery.

ANOTHER WORD ABOUT THE "BRICKS WITHOUT STRAW."

—Professor Camden M. Cobern of Allegheny College sends us the following communication: "Mr. M. G. Kyle of Philadelphia in the November-December RECORDS OF THE PAST [Vol. VIII, pp. 304-307] speaks of having found in 1908 by personal inspection, carefully conducted, that the bricks of Pithom were in the lower layers made with straw, in the middle layers with stubble and in the upper layers of bricks without straw or stubble. This is interesting to me since in 1889, one year after Naville published his memoir, I visited the site and made this same surprising observation, publishing it later in rather guarded manner in various reviews and then in my book on Ancient Egypt. Naville did not make this statement, and the Bible does not definitely connect Pithom with the city where the straw gave out. My examination was not long continued, but so far as it went this observation—surprising as it seemed—was uniformly confirmed and I brought back samples from the 3 kinds of bricks to an American Museum.

"As showing the accuracy of my earlier hasty observation, Mr. Kyle's seemingly more extended examination is to be welcomed."

WASHINGTON'S CANOE TRIP DOWN THE POTOMAC RELATED IN A LETTER TO COLONEL INNES

THE very interesting paper on *Washington's Canal Around the Great Falls of the Potomac*, in the last number of RECORDS OF THE PAST, suggested the present study of the record of his earliest work for improvement and navigation of this river.

Among the most precious old manuscripts owned by the Minnesota Historical Society is an unpublished long letter of George Washington, which was presented to this Society in 1870 by Hon. Wallace B. White, of Washington D. C., who in 1849-50 had been a resident and territorial officer of Minnesota. The letter, written on a sheet of paper about 8 by 13 in. in size, yellow with age and torn along one of the creases where it was originally folded, is now spread open and framed with glass on each side to allow both sides to be read.

On the side first written, bearing the formal address, the date, 12 August, 1754, and the signature, Washington wrote of the military situation and difficulties to be overcome. Though the name of the person addressed is not contained in the letter, it was evidently Colonel James Innes, in command of the North Carolina troops, as Washington was of those raised by Virginia.

Governor Robert Dinwiddie, of Virginia, had commissioned Colonel Innes, on June 4 of that year, to be commander-in-chief of the forces in a proposed expedition against the French on the Ohio and its tributaries, since all that country west from the Alleghany mountains to the Mississippi and south of the Great Lakes was claimed by the King of Great Britain and his American colonies. A month after the date of his commission, Innes and his North Carolina men had reached Will's creek, on the upper part of the Potomac, where Fort Cumberland was built under his direction, on the site of the city of Cumberland, Maryland.

Washington on his return from the battle of Great Meadows, or Fort Necessity, fought on 3 July, 1754, against the French and Indians on the Youghiogheny river in southwestern Pennsylvania, met Colonel Innes at Will's creek. The present need of transportation of military supplies, and the future needs of commerce between the Atlantic coast and the interior of the country west of the mountains, led both these commanders to wish more detailed knowledge of the navigability of the Potomac river as a part of the most feasible route of communication from the seaboard to the Ohio valley. Therefore Washington and a few chosen men made a canoe journey of observation down this river from Will's creek to its Great Falls, noting its conditions for navigation and especially its principal rapids and falls.

This journey was made probably about the middle of July, in the course of Washington's return to Williamsburg, then the capital of Virginia, to submit to Governor Dinwiddie the report of his eventful western expedition, which had culminated in the battle of July 3. If Washington first completed his return to Williamsburg, traveling wholly by land, and afterward went back to Will's creek for the Potomac canoe trip, it was made in the last week of July or early in August. On the 11th of August, Washington wrote at Alexandria his long letter to William Fairfax, member of the King's Council in Virginia, urging him to dissuade Governor Dinwiddie from his purpose of

Honble Sir, 12th of August 1754 —
 bridge from whence it is but a mile to the Landing place at the head of
 the river and is 5 miles to the lower landing below the falls of Seneca
 this is as far as I was capable, having given up most of my horses
 since writing to you. I regret the errors and inconveniences that attend the
 consideration and find it better to delay the other to some
 degree with a ready consent with me in judging it more convenient
 like you signify your intentions to me on this head.
 expressing and finally further say by using the most expeditious way to the
 that I may be guided thereby, and write nothing
 country. There is, I hope, no objection to our contributing this carriage of the
 in consistent with what you represent or advise.
 I should therefore hope you will acquiesce in my fully
 with your Opinion of this Affair, and send your
 dispatches (if any) to the Governor by the return
 of this messenger, to take the same conveyance
 with mine that goes by an Officer who I shall
 send to receive the needful for Recruiting. If
 you think it advisable to order me in the shattered
 condition we are in to march up to you, I wish, if no
 more than ten men follows me (which I believe
 will be the full amount, if it is agreeable to you
 I should be glad to know what State your Regiment
 is in as I hear some of your men are infected with
 the same disorders that our's are exposed to —

I am Your most Obedt Servt. J. P. Washington

I forgot to mention in my last of great
 difficulty of getting Waggon, that cannot be removed but by
 purchasing enough for that use. When we were our last
 camp after camp, and desired to have the artillery sent
 and was advised that no wagon could not be hired for
 5 times the value. —

sending an expedition for a campaign against the French on the Ohio during the ensuing autumn and winter.

The letter of the next day to Innes was probably also written at Alexandria. On its reverse side, beginning close at the top of the sheet, Washington wrote his description of the Potomac, apparently in much haste, with many interlined additions, shorter insertions by carets, and frequent words crossed out, others being substituted as preferable. The description, with comment on the river navigation, overran that side of the sheet, so that it was finished by interlined writing on the upper part of the opposite side.

The military letter and its postscript are as follows:

12th of August, 1754—

Hon^{ble} Sir

Since writing p^r Express I have considered and find it better to delay the other to W^{ms}burg till you signifie your Sentiments to me on this head, that I may be guided thereby, and write nothing inconsistent with what you may represent or advise: I should therefore hope you will acquaint me fully with your Opinion of this Affair, and send your dispatches (if any to the Governor) by the return of this Messenger, to take the same conveyance with mine that goes by an Officer who I shall send to receive the needful for Recruiting. If you think it advisable to order me in the shattered Condition we are in to march up to you, I will, if no more than ten Men follows me (which I believe will be the full amount. if it is agreeable to you I should be glad to know what State your Regiment is in as I hear some of your Men are infected with the same disorders that our's are possess'd off—

I am Your most H^{ble} Serv^t

G Washington

I forget to mention in my last y^e great difficulty of getting Waggon, that cannot be removed but by purchasing enough for that use. When we were out I sent express after express, and desired to have the artillery sent and was answer'd that a Waggon cou'd not be hired for 5 times the Value.—

Washington's observations and narration of the canoe trip are as follows. The last part, including "Bridge from whence" and forward, is interlined with the previous military part of the letter.

Sir

Your desire, added to my own curiosity engaged me the last time I was in Frederick to return down by Water to discover the Navigation of Potomack—the following are the observations I mad thereupon, I made in that Trip—From the mouth of Paterson's Creek to the beg^s of Shannondoah Falls there is no other obstacle than the shallowness of the Water to prevent Craft from passing—The first of those Falls is also even and shallow but swift and continues so with interruptions of Rocks to what is known by the Spout w^{ch} is a mile & half—from this^[1] their is Rocky swift and very uneven water for near 6 miles, in which distant there are 4 Falls, the first of which is

¹ The head of these rapids and falls, about two miles above the mouth of the Shenandoah river, as the letter shows by the writer's going back and making an interlinear addition of 3 lines, writing thence continuously onward.

tolerably clear of Rocks but shallow yet may be much amended by digging a Channel on y^e Maryland side. ab^t 2 miles from this, and $\frac{1}{2}$ mile below y^e mouth of Shannondoah is what they call the Spout, which is the great (& ind^d almost the only) difficulty of y^e whole it has a considerable Fall y^e water being confined shoots with great Rapidity & what adds much to the difficulty is the bottom being exceeding Rocky occasions a Rippling so prodigious that none but boats or large canoes can pass—The canoe I was in wh^{ch} was not new had near sunk having received much water on both sides and at y^e h^d—Their may be a passage also got round this also upon the Maryland shoar that Vessels may be hald up after removing some Rocks which a moderate expence may accomplish—One of the other two Falls is swift and ugly representing much^[2] the Spout but when the River is higher than ordinary a passage may be had round a small Island on the other side—which passage may be greatly improved. ab^t 8 miles below this there is another Fall which is very easy and passable and ab^t 2 Miles from that is a cluster of small Islands with many Rocks and swift water which renders the passage somewhat precarious. From this to the Seneca Fall the Water is as smooth & even as can be desird, with scarcely any perceptable Fall—The Seneca Fall is easily pass'd in two places and canoes may continue within two Miles of the G^t Falls but further it is not possible therefore the *trouble and expence* of advantage of pass^g this Fall will not be adiquite to the expence and trouble will not answer the Charges as all Carriages for the benefits of a good Road are obligd to pass Difficult Bridge from whence it is but 8 Miles to y^e landing place at the Snyderland Island and is 5 Miles to the Lowest landing y^t can be h^d below the afores^d Falls of Seneca. Thus Sir as far as I was capable, have I given you an acc^t of the conveniences and inconveniences that attend the navigation of Potomack fr^m y^e Fall up, which I doubt but you will readily concur with me in judging it more convenient least expensive and I may further say by much the most expeditious way to the country. There is but one objection that can obviate this Carriage & that is y^e scarcity of water in the best season of y^e year for this kind of conveyance.

At the beginning of the Potomac part of the letter, Washington refers to Frederick county, which was established by legislative act of the Colony of Virginia in 1738, comprising the part of its territory west of the Blue Ridge and bounded on the southwest "by a line to be run from the head spring at Hedgman river to the head spring of the river Potomack." The river first mentioned is one of the upper streams of the Rappahannock. Within the area thus included by the original Frederick county as then existing, bounded on the north by the Potomac river and Maryland, are now 11 counties, and parts of two others, in Virginia and West Virginia.

Patterson's creek joins the Potomac about 7 miles below Will's creek, which was probably the starting point.

The distance traversed along the course of the river in the canoe trip was very nearly 170 miles, terminating at the head of the strong rapids close

² Not much unlike the is written over representing much.

above the Great Falls. In this distance the descent of the river, as noted in the reports on water power published by the Tenth United States Census, amounts to about 460 ft., from about 610 to 150 ft. above the sea.

In $1\frac{1}{2}$ miles next above the mouth of the Shenandoah river, at Harper's Ferry, the Potomac falls about 27 ft.; and its descent in the next 3 miles down stream is 25 ft. Thus the series of rapids and falls most particularly described by Washington, estimated by him to have an extent "near 6 miles," above and below the Shenandoah, comprises a descent of more than 50 ft., being from 272 to 220 ft. above the tide or sea level.

Seven miles below the Seneca Fall, which is at Seneca creek, are the Great Falls, about 14 miles above Georgetown and the head of tidewater, having a sharp descent of 35 or 40 ft. in 100 or 150 yards, and in a mile or a mile and a half a total fall of 80 or 90 ft., from about 140 to 60 or 50 ft. above tide level. The top of the Little Falls, 5 miles above Georgetown, is noted as 37 ft. above tide.

As early as 1749, 5 years before Washington's, trip the Ohio Company had taken boats up the Potomac from the head of the Great Falls; and in 1750 they established an Indian trading post at Will's creek, far beyond the boundaries of white settlements. About half a year after Washington's examination of the river, it was again examined by Governor Horatio Sharpe of Maryland and Sir John St. Clair, going in a small boat from Fort Cumberland to Alexandria, their start being on or about 28 January, 1755.

Washington at the time of this journey was 22 years old. Less than a year afterward, on 9 July, 1755, he was in the disastrous battle of Braddock's defeat. Twenty years later was the beginning of the American Revolution.

Much information of the life of Colonel Innes is given by Saunders in his prefatory notes of Volume V, *Colonial Records of North Carolina*. It appears that Innes was born not later than 1700, being a native of Scotland, probably of Cannisbay in Caithness. He came to North Carolina before 1735, and after 1750 he was a member of the Council of that colony. His military service at Fort Cumberland ended in August, 1755, when he returned to North Carolina. He died at Wilmington, N. C., 5 September, 1759.

The survey narrated in this letter was one of the seeds which long afterward fruited in the unremunerative rock-hewn canal and locks constructed past the Great Falls on their Virginia side, and still later in the successful Chesapeake and Ohio canal adjoining the Maryland side of the Potomac. In the national deliberations for constructing the latter canal, Washington's notes of this river survey in 1754 were used, an abstract of them being published, with other data and observations by many later surveys, in a report to Congress (19th Congress, 1st Session, H. R. Report No. 228, p. 26, May 22, 1826). Thus the descriptive letter hurriedly written by Washington, amid many distractions and heavy cares as a young patriot for protection of the colonies against French aggression, has a place in the foundations and beginnings of all the work of this nation for internal improvements and the commercial and industrial development of our country.

If time could turn backward so far, many living in the wider America of today would gladly give much to see the youthful Washington, skilled in frontier and forest surveying, and recently led to take up his great life work as a brave and tactful soldier and a lofty statesman, when on a midsummer day he sped in a canoe, probably a log dugout, down the dangerous rapids and falls of the Potomac near the mouth of the Shenandoah. Some painter and seer should look back to that day and scene and its hero, and should portray them with essential historic truth for the less gifted common people to receive from the picture a lesson of courage and fidelity.

St. Paul, Minn.

WARREN UPHAM.



DISCOVERY OF AN INDIAN SHELL-HEAP ON BOSTON COMMON

ABOUT 1625 William Blaxton (or Blackstone) established himself on the peninsula upon which Boston, Massachusetts, is built, and induced Governor John Winthrop and his company to remove thither in 1630, from Charlestown, "acquainting the Governor of an excellent spring there, withal inviting him and soliciting him thither."¹ Shurtleff says "within the recollection of many of the old residents of the westerly slope of Beacon Hill a large spring poured a bountiful supply of water not far from the centre of the grass plat in the inclosure of Louisburg square. This was unquestionably the identical spring."² One would suppose that, if the Indians ever had occupied the peninsula permanently, traces of their habitation might have been found in that vicinity; but we have no accounts that the first settlers found any there, or in any other part of the peninsula, although they found other springs there.

During the past autumn and winter several trenches have been dug across Boston Common, in which irrigation pipes are to be laid, in the hope of benefiting the trees growing there. In one of these trenches, near the path leading from the foot of Joy street across the Common to West street, on the north side, I recently came upon unmistakable proofs of ancient occupation. The soil was blackened from the decay of animal substances, and mixed with it were broken, black-stained shells of the common soft-shelled clam precisely like what are found to mark the sites of Indian "shell-heaps" along the New England coast. The excavation was not broad, and there were no stone chips, nor implements of stone or bone to be found; but I did find a smooth, thin, flat pebble, marked with deeply incised cuts, such as are frequently found upon Indian sites, and which are supposed to have been used as markers in games. If there ever had been a spring near by, it has long since disappeared; but it would naturally have flowed into "the Frog Pond on the Common . . . a marshy bog transformed into an artificial pond by the industry and labor of the older townsmen."³

It has seemed to me to be worth while to put upon record this discovery of an Indian shell-heap upon Boston Common.

Boston, Mass.

HENRY W. HAYNES.

¹ Drake's *History and Antiquities of Boston*, p. 96.

² *Topographical and Historical Description of Boston*, p. 391.

³ Shurtleff, p. 411.

THE RELATIONS OF THE GREAT MUSEUMS AND INSTITUTIONS TO THE INDEPENDENT LOCAL INVESTIGATOR

THE desire of our business world to form combines and monopolies has so permeated the atmosphere that even our educational institutions, great museums and learned societies seem to have been infected with the germs. While the advantages of this infection to the purely scientific world have been many, the general public has failed to receive its due portion of these advantages. One class of scientific investigators has been pushed to the wall,—the independent observer who has to do other work for a living. The feeling seems to be prevalent in many of these large institutions that the observations of any one who is not devoting his entire time to scientific research are valueless. And in many cases they consider that the boundary of their own institution marks the limit of all scientific accuracy.

It is for these independent investigators that we wish to make an appeal. We need more of them, and they need the encouragement of the large institutions. Often a local observer on the spot is worth more than a \$3000 scientist afar off, and his observations are at least worth considering.

The writer once went to a small town to call on a man who lived in a very interesting geological locality. His odd time was spent tramping over the neighboring fields. On these expeditions he made discoveries which would have cost an institution thousands of dollars to make, even if they had been fortunate enough to hit on the right place without the aid of some local observer. This man was located with some difficulty. But was finally found. He was setting type on the local town paper, the organ through which his discoveries were first made known. If the great museums and institutions will not look after such men and see that their work is brought to light, who will?

We realize that there are a vast number of "cranks" among those whose avocation is some branch of scientific research, but the large institutions can hardly boast immunity from this malady. It might also be noted that in many cases the so-called cranks of their own generation are looked on as savants by the next, so that it is not advisable to be too hasty in the condemnation of the theories of others, whether they are in your scientific combine or not.

There lies before me a letter from one of the largest and best endowed institutions for the advancement and encouragement of scientific research. This will give a fair idea of the general feeling which exists in these great institutions. It reads as follows:

"Replying to your letter of the 13th inst., in behalf of I beg to state that while I have nothing but commendation for his work, I cannot recommend our Executive Committee to give him a grant.

"Our experience shows that we are certain to waste funds if we attempt to aid any considerable number of investigators who seek to carry on research

as an incident to their vocations. In the great majority of cases of such awards it has been taken for granted that the initial appropriation calls for another, and so on indefinitely. Thus we have been forced to the method of devising our own ways and means, in the main, for carrying on research, having found these to be, in general, far more fruitful than the method of widely scattered grants to individuals whose vocations give them little time for avocations."

The case referred to in this letter was one where \$100 to the local investigator would bring more results than \$5000 to an expedition. To analyse the letter: The ability of the observer is recognized; but they have found such observers to be avaricious and grasping, desiring a second and a third appropriation. Does any such condition ever exist among the scientific members of these large institutions? Would it not be possible to cut off an appropriation after the first season if the results or prospects of results were not commensurate with the expenditure?

Further, their experience seems to have taught them that it is best to keep their appropriations for their own family circle.

Without depreciating the value or denying the necessity of the large expeditions, systematically conducted, we wish to call the attention of the great institutions and their benefactors to the fact that many observations are needed in places which would not warrant great expeditions, but may form connecting links of the highest importance in checking the results and theories of the parties conducting the more extensive excavations. Who can better fill this field than the local investigator? Such persons may also have the advantage of seeing facts with an eye unbiased by a pet theory which has appeared in print and must be substantiated, wittingly or unwittingly, by its author.

These investigators need assistance and encouragement both in conducting their researches and in making the results public. Who will furnish them this aid?

RECORDS OF THE PAST EXPLORATION SOCIETY has not attempted, as yet, any field explorations, but has limited itself to the work of disseminating, in as untechnical a manner as possible, the results of archaeological researches carried on by the great institutions, many of which have materially assisted in this matter, and to presenting the results of worthy local observers, and pointing out places where small sums given to aid such investigators would yield rich results. The work of the Society is not intended to be diffusive, nor will it be permitted to encroach upon the operations of others. No exploration is contemplated beyond such as may be deemed necessary to correlate and harmonize, by comparison, the work of other societies, institutions, or individuals in their chosen fields. The idea is to amplify and bring into concrete form the results obtained by contemporary activities, no matter by whom or by what agency the work of exploration has been conducted. None will contend that the work thus contemplated is unnecessary. Indeed, so apparent is its value that only words of warmest appreciation have been expressed by the most partizan workers in each of the various fields of exploration. All recognize that by no other agency could this work of correlation and comparison be conducted so well as by an organization founded like this Society upon a comprehensive and independent basis.

It is only by correlation and comparison that the true values of archaeological discoveries are made apparent. It is to the scholarly student and scientific observer that we must look for the truth as deduced from archaeological discoveries. These deductions are the basis upon which the publishing feature of this Society is founded, but the work of correlation, unlike that of publication, can not be made self-sustaining and will ever be dependent upon those who appreciate the value and importance of such work. This effort to correlate will disclose from time to time where a small expenditure for original exploration would unify the work already completed in special fields by other agencies and will thus properly come within the scope of this Society. This phase of the work will always be dependent for support on the public-spirited.

There is a world of truth in a remark frequently made and emphasized by the late Professor Lesley, that the advancement of the observational sciences must always depend in the highest degree upon having a multitude of widely scattered observers who can report intelligently upon the details of phenomena occurring about their own doors. It was by encouraging such observers and sifting their reports that Professor Dana accomplished such a monumental work as he did through his publications, chief of which was the *American Journal of Science*, in which were collected and brought to light the unorganized observations of intelligent students all over the world. Notwithstanding all the peculiar advantages secured by government surveys and educational trusts, the importance of the work that may be done by this great army of unorganized observers should not be overlooked. The advantage which many of these observers have from their position in close proximity to the fields of investigation often outweighs all other advantages. It was well said of Sir Humphrey Davey that of all his discoveries that of finding Faraday was the greatest.

Many scientists have made their reputation as such by following their avocation without the aid or encouragement of any institution, until after they became widely known, and literally compelled recognition. The stock of the world's valuable knowledge would be sadly curtailed if it were deprived of the discoveries of Franklin, Morse, Elisha Gray and Edison in electricity; of William Ferrel, the poor school teacher, in meteorology; of John Gulick, the missionary, in biology; of the Wright brothers in the discovery of the principles of aerial flight; of Hall in discovering the processes of manufacturing aluminum; of Agassiz, Andrews, Billings, Deane, Dutton, Engleman, Gould, Hitchcock, Kendall, LeConte, Leidy, Lesley, Hugh Miller, Orton, Mudge, Perry, Prestwitch, Schoolcraft, Spencer, Stone, Taylor, Upham, G. F. Wright and many others in geology; of Hincks, Merrell and Rawlinson in Assyriology; of Dr. C. C. Abott, Miss Babbitt, Nicolai Martianoff, Boucher de Perthes and Dr. Rigillout in archaeology, of Le Verrier, William Herschel (a musician) and S. W. Burnham in astronomy. With all of these and many more equally illustrious, their scientific investigations at the outset were their avocations and in many cases remained so throughout life.

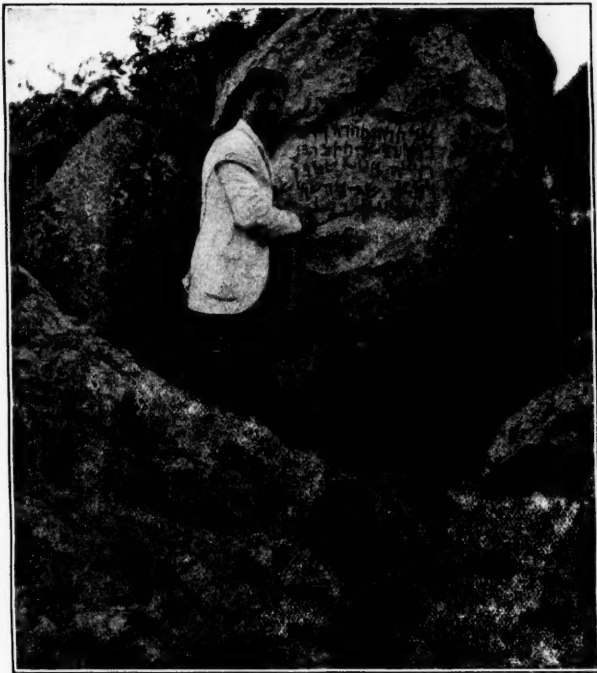
At present we have in mind an archaeological society located in the center of the ancient Hittite Country. Here a few hundred dollars could be expended to better advantage and reap greater results than an expedition equipped and sent out from this country at enormous expense. We refer

to the Anatolia Archæological Club of Marsovan, Turkey in Asia. Their most active member, Mr. George E. White, is well known to readers of RECORDS OF THE PAST. Is there not some one who would like to make an investment here, either direct to the Anatolia Archæological Club or through us?

We would also call attention to another local observer who is known to our readers, Professor Isabel F. Dodd, of Constantinople, Turkey. She is interested in an unexplored site at Kul Tepe which promises much of interest and importance.

FREDERICK BENNETT WRIGHT

Washington, D. C.



HITTITE INSCRIPTION FROM CILICIA

This is a concrete example of the work of independent observers. The inscription given above is on a rock which seems to have fallen down from the cliffs shutting in the Gözna Valley in the Tarsus Mountains in Cilicia, near Mersine, Asia Minor. For years the presence of the inscription has been known, but until 3 years ago it was considered old Armenian. At that time Mr. Renwick Metheny sent a squeeze of it to the University of Pennsylvania, where it was pronounced Hittite. We are indebted to Miss Mary G Webb of Adana, Turkey in Asia, for the photograph and facts.

BABYLONIAN LEGAL AND BUSINESS DOCUMENTS¹

A VOLUME of *Babylonian Legal and Business Documents* by Arno Poebel, recently published by the University of Pennsylvania, gives numerous sidelights on life in ancient Babylonia. Regarding marriage there is the following contract: "Enlil-idzu, priest of Enlil, son of Lugal-azida, has taken Amasukkal, daughter of NinIB-mansi, to wife, 19 shekels of silver Ama-sukkal has brought in to Enlil-idzu, his wife. In future, when Enlil-idzu says to Ama-sukkal, his wife: 'My wife not art thou,' he shall return the 19 shekels of money and in addition pay half a mine as her divorce money. And when Ama-sukkal says to Enlil-idzu, her husband: 'My husband not art thou' she shall forfeit the 19 shekels of money, and, in addition, pay half a mine of silver. In mutual agreement they have both sworn by the name of the king."

Adoption was a common practice. "The great number of adoptions and the fact that adults, and often more than one, are adopted, show that in Babylonia adoption formed a kind of business transaction by which not only the adopted, but also the adopting person gained an advantage. This consisted primarily in the help which he had from the adopted, and which he needed especially at his age when he could no longer earn his sustenance himself. This becomes very evident from No. 28, which determines the exact amount of the sustenance which the adopted, and the legitimate son have to give to their father and from No. 4 where the adopting priestess secures for herself the benefit of her adopted daughter's sustenance."

An ordinary receipt runs as follows: "3 shekels of silver, the purchase money of a house, Kishiti-Nin-IB, son of Tabbalatu, has received from Balilum and Sin-malik. His heart shall be satisfied."

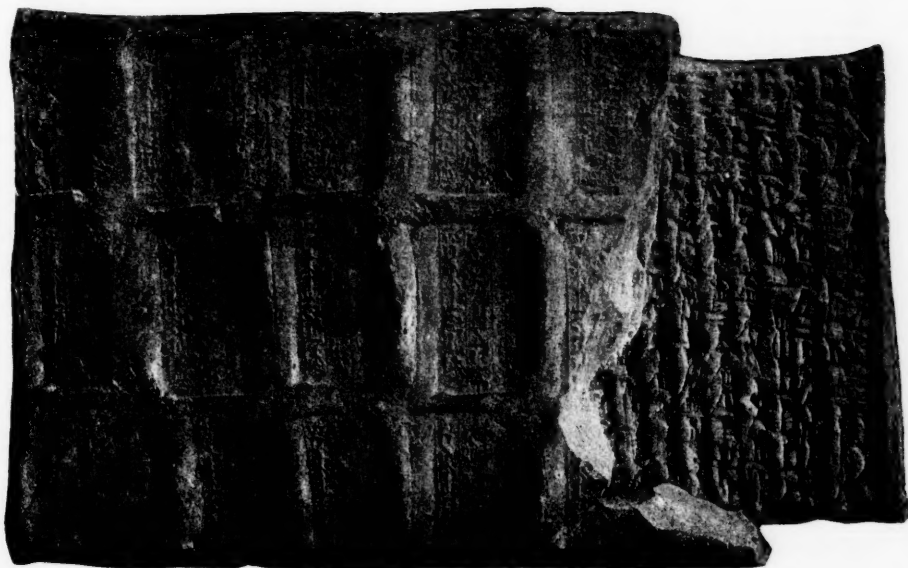
"A characteristic feature of the Nippur documents are the seal impressions, which differ in various respects from those on tablets from other parts of Babylonia. . . . The seals employed in Nippur in connection with documents that were sworn to were not those usually borne by the persons who sealed the contract, but were made expressly for the occasion by an official, the *bur-gul*, who is associated in the closest connection with the *dub-sar*, either in the succession *dubsar—burgul* or *burgul—dubsar*, after the names of all other witnesses are recorded. The seals made by the *burgul* were not engraved on such small cylinders of a very hard material as have been found abundantly in the mounds of Babylonian cities, but on small rectangular slabs, or on the rectangular side of more handy pieces of a soft material which could be cut easily. These seals, of course, could not be rolled over the tablet, but were stamped upon them. . . . They never contain pictorial representations. The script of the inscription is larger and less carefully made than on the cylinders. The seal was placed on the tablet in such a way that the inscription traversed the unscribed parts of the surface in longitudinal direction. The name of the sealing

¹ Notes and excerpts from Babylonian legal and business documents from the time of the first dynasty of Babylon, chiefly from Nippur taken from Vol. VI, Part 2—*Babylonian Expedition of Univ. of Pa.* By A. Poebel.

OVERSE OF CASE, REVERSE OF TABLET



OVERSE OF TABLET, REVERSE OF CASE



CONSENT OF A COMPLAINANT NOT TO FORCE THE WITNESSES OF THE
DEFENDANT TO TAKE AN OATH ON THEIR TESTIMONY, AND RENOUNCE-
MENT TO HIS CLAIMS AFTER RECEIVING $1\frac{1}{2}$ SHEQEL OF SILVER. 19TH
YEAR OF SAMSU-ILUNA

! Courtesy of University of Pennsylvania.

person is therefore usually reproduced in full. The inscription never contains an addition to the name denoting a religious confession, like 'Servant of this or that divinity,' which is so frequently found on cylinders, but confines itself, on account of its official character, to strictly legal designations, *i. e.*, the *kunya*; and not infrequently the statement of the vocation, which stands before the *kunya*.

"The most remarkable feature, however, is that the names of all the persons forming one party of the treaty, and in connection with division documents the names of all parties concerned, are united on one seal, which would have been an impossibility if the seal had not been made for the one special occasion.

"It is remarkable that such seals were cut by the *burgul* even for the temples, or, using the Babylonian way of expressing it, for the gods, when they were the parties on whom the obligation rested.

"The seals used with contracts that were not sworn to, or such documents as were sealed by the witnesses, were private seals. It is a fact, well known from the Sippar tablets, that only a comparatively small number of persons carried seals containing their own names, but most of them such as either had formerly belonged to other persons, containing the names of these, or had no inscription at all. A considerable number of seal impressions shows only the picture and the name and the titles of a god. The scanty material at our disposal does not permit us to decide with absolute certainty whether this peculiarity explains itself simply by the character of the seal as a charm, or whether they, like the above mentioned *burgul* seal of *Enki* and *Damgalnunna*, are temple seals, and were used by the persons who held office in the respective temples. But the frequent occurrence of one and the same god on different seals leaves but little doubt that the first view is the right one.

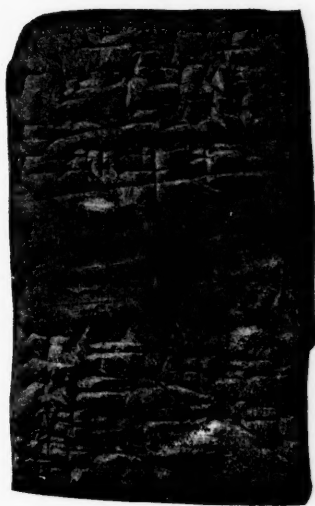
"With some tablets the whole surface is covered with seal impressions the traces of which can be clearly seen between the script. These seal impressions were made before the tablets were inscribed, because the script shows no sign of derangement. This seems to be the case also with those tablets on which the seal impressions are made only on the blank spaces. Contrary to the custom prevailing at Sippar of sealing only the case and leaving the tablet unsealed, in Nippur the inner tablet was sealed also."

In the matter of loans there was some variety. If the loan was in grain or money, it was accompanied by a statement denoting whether the interest was still to be added, or was included in the sum noted in the document. The documents from Sippar always state the rate of interest, while those from Nippur do not; probably because there was but one rate in use, understood in all cases. One document, however, indicates the amount of interest for grain borrowed, as it was to be paid in money. Usually loans of grain or money were paid at harvest time. Bricks, mentioned in one case, were to be returned in the brick-making month.

Years were named after important events, but there is sometimes difficulty in determining whether the event happened in the year named after it, or in the previous year.



OBVERSE

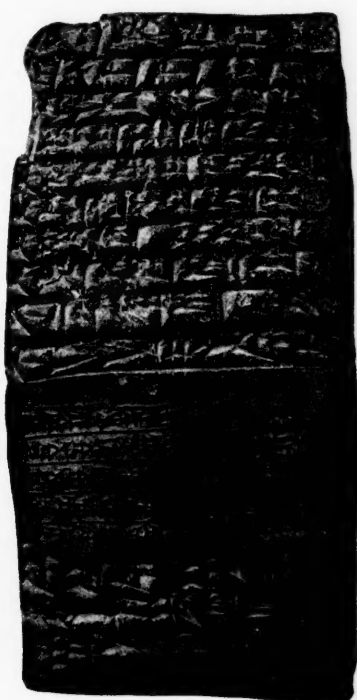


REVERSE

LEASE OF A FIELD FOR PAYMENT OF ONE-THIRD OF THE CROP. 13TH
YEAR OF SAMSU-ILUMA



OBVERSE



REVERSE

DIVISION OF INHERITANCE. THE SEAL CONTAINS THE NAMES OF ALL FOUR
DIVIDING PERSONS. 13TH YEAR OF SAMSU-ILUMA

Courtesy of University of Pennsylvania

"The events after which the years were named may be classed into two kinds, such as consist of an act that could be performed on one single day, and at any desirable time, as, *e. g.*, the dedication of a votive statue, of a weapon, or of a throne for a god; and, on the other hand, such as either it was beyond one's power to fix on a certain day or that needed a long time for completion, as, *e. g.*, historical events, the capture of hostile cities and princes, or the digging of canals, the building of city walls and fortresses, of temples and stage-towers. The explanation of date formulas referring to events of the first kind presents no difficulty, *e. g.* . . . 'The year in which *Ammi-zaduga*, the king, has brought into *E-sagil* great emblems.' This phrase clearly implies that the act referred to took place within the year in question. Now we know that in later times in Babylon the beginning of the year was celebrated with great religious ceremonies, and that the king himself took a prominent part in them. Therefore, we are hardly wrong in assuming that the king dedicated the statue, throne or the like on New Year's day, the event being thus within the year to which it gave its name, and, nevertheless, so early that not one day of the year was left unnamed. This assumption becomes very reasonable from the fact that by far the greater number of formulas refer to actions of a religious character. Undoubtedly the royal authorities and the priesthood knew the program of the New Year's celebration, with the acts planned by the king, a sufficient time before, and could make use of it in the naming of the coming year.

"The difficulties arise with those formulas which refer to events of the second class. . . . There is a possibility, and in some few cases it is even likely, that the formula was promulgated in a later part of the year after the historical event had taken place, but as a general custom this procedure is very improbable, and at least in one case impossible, because the formula which mentions the historical fact is found on a tablet of the first of *Nisan*.

"The solution of the difficulties is that the date formulas mentioning events of the second class are incomplete, and that they recorded in the missing part some religious act, probably the offering of some votive object which alone took place on New Year's day, and thus in the year of the formula, while the events mentioned before this religious act had occurred in the past, *i. e.*, in the previous year. We should therefore not translate 'year in which *Hammu-rabi* vanquished *Rim-Sin*' but 'year in which *Hammu-rabi*, after having vanquished *Rim-Sin*, brought before *Anum* and *Ellil* some object of the booty or some votive object.' The correctness of this explanation is proved by the observation that the verbs relating the dedication, etc., of objects on New Year's day stand in the perfect tense, those relating historical events, however, in the historical tense, which, as I have tried to show . . . denotes the difference of time when it is contrasted with perfect tenses."



SAN HIPOLITO

THE order, convent, church and hospital of the "Hipólitos" were in the beginning all under one control, but this was changed by the suppression of the order and the closing of the convent, the church and the hospital also becoming independent one from the other. In front of the spot where the church of San Hipólito stands today, there existed in 1520 the second of the two parapets or fortified moats which defended the causeway connecting the ancient Aztec city with the main land. At this point the Spaniards suffered a crushing defeat in their retreat on the "Noche Triste," or sad night. Those who survived, in order to perpetuate the memory of this bloody rout built on this spot a little hermitage which bore the name of "Juan Garrido," as this soldier was mainly instrumental in its erection as soon as the city was finally captured. Shortly afterwards it was called "La Ermita de los Mártires," the Martyrs' Hermitage; finally it was called San Hipólito in commemoration of the 13th of August, 1521, the date of the taking of the city, that day being dedicated to the saint of that name. The church bears that name today.

One Bernardino Álvarez, a native of Utrera, in Andalucía, had accumulated a small capital in various ways in Perú and in New Spain; but becoming weary of his wandering life in 1556 he devoted himself to the care of the sick in the hospital of Nuestra Señora de la Concepción, one of Hernán Cortés' foundations, today known as the hospital of Jesús Nazareno. Ten years passed in this labor at the end of which he decided to found a hospital of his own; he was aided in his efforts by several friends amongst whom were Miguel Dueñas and Isabel de Ojeda his wife, who in 1566 gave him a plot of ground in the Calle de San Bernardo. Finding this too small for his purpose Álvarez asked for and obtained from the city a piece of uncultivated land next to the hermitage of San Hipólito, and was given permission to erect there a hospital which he called San Hipólito also.

With his own money and the alms that he collected he built a few rooms and at once opened them to the sick poor, to the aged and insane, caring for them himself; he then went to Vera Cruz and brought to his hospital the sick who had landed there, and those who were helpless and without destination called "polizones," or those who had left Spain by stealth without leave or a passport from the King or government. Various persons both clerical and secular joined in this work with Álvarez, who then decided to form a congregation or brotherhood to be known as Brothers of Charity; he drew up a constitution which was approved by the bishop of the diocese and, in 1585, by Pope Sixtus V, and then authorized by the Council for the Indies in January, 1589. As the brotherhood was not bound by vows of any description they frequently absented themselves and the work suffered accordingly. To remedy this Pope Clement VIII in October 1604 issued a bull to the effect that the brotherhood should take the two solemn vows of hospitality and obedience, being subject to the rule of the oldest brother.

The brotherhood retained the name of Brothers of Charity until the end of the XVII century, when by bull dated 20th May, 1700, Pope Innocent XII declared it to be a religious order under the Augustine rule, each brother after a novitiate of one year to take the vows of chastity, poverty, obedience and hospitality, being accorded the privileges of the mendicant friars. By bull of 13th December, 1735, these privileges were confirmed and in addition it was provided that the brother in charge should hold office for 6 years only. Such is the origin of the order of hospitaller monks in Mexico.

The original hermitage was built of *adobes*, or sun baked bricks, and the brothers so arranged one of the rooms that it could be used as a chapel; later on the city government offered to erect a better church at its own expense but the work proceeded so slowly that it was not completed until 1739. It was finally put in its present state by the city and opened to the public on 20th January, 1777. Every year a solemn function was held on the 13th of August in commemoration of the capture of the city by the Spaniards; it was partly religious and partly civic, the Viceroy and the nobility always taking part. This occasion was known as "El Paséo del Pendón," the procession of the banner. The pomp of the function diminished with time until in 1812 the Spanish Córtes abolished the processional feature. The day however continued to be observed, the Viceroy and his suite attending services in the church of San Hipólito. Even this was finally discontinued in 1822.

The banner which was carried at the head of this procession was not, as has been generally supposed, the flag borne by Cortés' troops when they captured the City (this is now in the National Museum) but the royal standard specially made for the occasion by order of the City Council. In 1540 a new one was made, the colors being red and green; it combined the best features of the older flag and embodied several new ones among which were the City coat of arms and the motto: "Non in multitudine exersitus consistit victoria, sed in voluntate Dei."¹

A few years after its inauguration this hospital was devoted to the exclusive care of the insane of both sexes, and continued to be so employed until 1908 when the inmates were removed to the church of San Pedro and San Pablo, which has been converted into an asylum.

At the southeast corner of the wall about the courtyard of the church of San Hipólito is a large oval stone on which is carved the following inscription:

Tal fue la mortandad
que en este lugar hicieron los
Aztecos a los Españoles la noche
del 1. de Junio de 1520, llamada por
esto "La Noche Triste," que despues de ha
ber entrado triunfantes a esta Ciudad
los Conquistadores al año siguiente re
solvieron edificar aquí una ermita que lla
maron de los Martires: y la dedicaron a SS
Hipolito por haber ocurrido la toma de la

¹Gonzalez Obregón, *Mex Viejo*, p. 54.



SAN HIPOLITO, MEXICO

Copyrighted Photo by Walte.



SOUTHEAST CORNER OF SAN HIPOLITO. MONUMENT MARKING THE SPOT
WHERE CORTÉS HAD A BATTLE WITH THE AZTECS

Copyrighted Photo by Waite.

Ciudad el 13 de Agosto en que se celebra este Santo.

Aquella Capilla quedo a cargo del Ayuntamiento de Mexico quien acordo hacer en lugar de ella una Iglesia mejor, que es la que hoy existe y fue comenzada en 1599.

TRANSLATION

"So great was the massacre of the Spaniards by the Aztecs in this place on the night of June 1, 1520, called for that reason 'The Sad Night,' that after having triumphantly entered this city in the following year the Conquerors resolved to erect here a hermitage which they called 'The Hermitage of the Martyrs;' and they dedicated it to San Hipólito, as the capture of the City took place on the 13th of August, the day set apart for the worship of this saint. Said chapel remained in the hands of the City Council which agreed to erect in its place a better church, which is that which today exists and was begun in 1599."

Below this inscription is carved a large eagle which carries an Indian in his claws; the expression on the Indian's face seems to denote much pain and horror; he is clad in a feather kilt reaching to the knees and has a *penache* (crown) also of feathers on his head. Below and at each side are seen bows, arrows, quivers, battleaxes, slings and other objects, amongst the latter, near one of the legs of the figure, is a fire brand.

Fr. Diego de Durán in his *Historia de las Indias de Nueva España* gives the following legend which served as the basis for the carving above referred to:

A poor Indian while working in his cornfield one day saw coming toward him from the sky a great eagle, which finally swooped down upon him and fixing its talons in his hair rose with him to such a height that those who witnessed the occurrence lost sight of them.

He was carried a great distance and at length reached a very high mountain where they entered a deep cavern; when they were both within the bird spoke and said,

"Powerful lord, I have complied with thy commands; here is the laborer whom thou badest me bring to thee."

A voice replied,

"You are welcome; conduct him hither."

The Indian was then led into a room where all was bright, and there he saw the Emperor Motecuhzoma II sleeping. The Indian was made to sit down and was given a piece of smoldering cane. The voice then said,

"Take the brand; look at yonder miserable Motecuhzoma who is drunk with his own pride and vanity; and if thou wouldest see how insensible he is, touch him on the thigh with the burning cane."

The trembling man was fearful and dared not do as he was ordered; but

upon being further urged he applied the brand to the Emperor's thigh, and behold, he remained immovable, for he felt it not! The voice then said,

"Seest thou how insensible he is and how drunken? Know, then, that for this thou wast brought here by my command; go, now, return to thy land and recount to Motecuhzoma what thou hast seen and what I bade thee do; and that he may know that thou speakest true, ask him to show thee his thigh and thou wilt find there the mark of the fire with which thou didst burn him. Then say to him that the gods are angry with him; that he himself has sought out all this evil which is about to befall him, and that his power and his pride are coming to an end; tell him too, that he enjoy what little time is still left to him."

The voice ordered the eagle to take the laborer to the place from whence he came; and when they had arrived there the eagle said,

"See to it, O lowly laborer, that thou fear not, but with courage do that which my lord has commanded thee, and forget not the words thou hast to say." Thereupon the eagle disappeared.

The Indian hastened to the Emperor's palace, still holding the burning cane in this hand; kneeling before the monarch he said,

"Most mighty lord, I am a native of Coatepec and while I was at work in my *milpa* an eagle took me to a far off place and in a cavern there I saw thee lying near me. I was given a bit of burning cane and was bidden to touch thee on the thigh with the fire, which I did, but thou didst not move nor didst thou feel the pain. A voice then said that this proved how insensate thou art and how proud, and how thy kingdom is about to come to an end all due to thee along and to thine evil works. I was then ordered to come to thee and tell thee all that I had seen and heard. I have done."

At once the Emperor recalled how the night before he had dreamed that an Indian had burned him on the thigh and lifting his garment there, of a truth, was the burn which began to cause him such pain that he took to his bed; but before doing so he ordered the Indian to be cast into prison there to starve to death; and his orders were carried out.

A. L. VAN ANTWERP.

City of Mexico.



HINDU POLAR MYTH.—A Bengali paper, published in Calcutta remarks that neither Peary nor Cook can claim to be the discoverer of the pole. Hindu myths relate how 4000 years ago the Hindu saint Nurad, at the bidding of Vishnu, conveyed the five-year-old child of Rayah Uttanpat through the air and seated him on his icy throne at the top of the pole where his highness has been seated ever since in the enjoyment of perpetual youth. The Calcutta editor adds: "There the young prince walked on without sledges drawn by dogs or pioneered by Eskimos. He wanted no tinned meats, no sealskin to chew, and no bear's grease to satisfy his hunger, and simply because by the support of the great Vishnu he did not feel its pangs."

DISCOVERIES IN BABYLONIA AND THE NEIGHBORING LANDS¹

GRADUALLY, but surely and ever more speedily, Assyriology is becoming the most important study in the domain of Oriental archæology. The language of the Babylonians and Assyrians proves to be a tongue of the most engrossing importance whilst that of the seemingly earlier race—the Sumerians—with which it was brought into contact, is regarded by some as the coming study for those who wish to acquire renown as true archæological linguists. But besides the languages, with their dialects, a very specially interesting and important field of study is their archæology in general, their beliefs, their manners and customs, their arts and sciences, and the geography of the land. Whether we shall ever obtain information as to their original home, we do not know, but we may, by chance, acquire, ultimately, the information needed to find out where that place may have been; and in any case, we shall know all the better what influence those nations may have had in the world, to say nothing of the bearing of their records on the all-important subject of Bible history, thought, and beliefs. A number of closely-connected nations whose influence extended from Elam on the east to the Mediterranean and Egypt on the west, and from the Caspian Sea on the north to Arabia on the south, cannot fail to have exercised considerable influence beyond those borders and boundaries—an influence of which we shall not obtain a full idea for many years to come.

Now that we have learned so much about these ancient nations, and their peculiar wedge-formed characters, we know also something of their power and the wide influence of their writing. It is now known that the so-called Phœnician goes back to 1500 or 2000 years before Christ, but there was a time when the cuneiform script, in one form or other, was used all over Western Asia within the limits I have indicated. In addition, therefore, to Semitic Babylonia, the cuneiform script, derived from that of Babylonia, was used by the Assyrians, who spoke the same language; the Elamites, who spoke Babylonian and ancient Elamite; the Armenians, who seem to have obtained the syllabary they used from Assyria; the Palestinian states who got their script from Babylonia; the Mitannians, who also employed the Babylonian style; the Cappadocians, who at first used ancient Babylonian, though they seem to have been an Assyrian colony; and the Hittites, who also used the Babylonian style. These are the nationalities who are known to have used some form of the Babylonian wedge-writing, and the list omits ancient Persia on account of the impossibility of tracing any sure connection between their cuneiform alphabet (for that is, perhaps, the best word to use) and the complicated characters of the Babylonians and Assyrians. It will thus be seen, that the cuneiform script, forming, as it does, the medium of communication between so many different peo-

¹ This paper was presented by the author at the 492nd ordinary general meeting of the Victoria Institute, and has been slightly abridged from the Journal of the Transactions of The Victoria Institute, Vol. XLI and illustrations added.

ples of ancient times, is of the utmost importance—indeed, attempts have been made to connect it with the ancient Phœnician, and, through that script, with our writing at the present day. This is not generally accepted, but probably offers, in some cases, comparisons as satisfactory as those obtained with the Egyptian hieroglyphics through the Demotic forms. In addition to the nationalities mentioned above as users of the cuneiform style of writing the inscriptions mention the languages of Su and Suh (the tongue of the Shuhites of Job ii, 11, etc.), the Kassites, and the Lulubites.

But the discovery of new languages, or dialects, or new styles of writing, is not yet over, as is shown by the French excavations at Susa. On that interesting site they have found not only a number of Elamite and Babylonian inscriptions in the wedge-formed writing, but also several in a new style, not cuneiform, though the characters may have assumed that peculiarity, under Babylonian influence, about 3000 years before Christ. Among the specimens we have a stone bearing the name of Karibu-sa-Susinak.² The following is the suggested translation of this inscription, by Professor Scheil, the original being, as already indicated, in proto-Elamite:

"Offerings of food, fermented drink . . . , and dates: 20 measures of sweet drink, . . . 2 measures of date-wine, 20 measures of seed-oil, 1 measure of fermented drink, a kind of fish, 1 sixth of a measure of dates (for) food, . . . , 100 measures of sweet food (?), . . . 3 measures of fine *kip*-drink, 100 . . . , 1 sixth of *hal*."

This inscription, if rightly rendered in the main, reminds one of the numerous tablets recording gifts or contributions of drink, food, and oil, which have been found at Lagas (Tel-loh), in southern Babylonia. The rendering (which I have modified from that of Scheil) is based on a likeness of certain of the characters with the line-forms of the early Babylonian script; but whether we are right in assuming that one is derived from the other or not, I do not know. Though defective, the translation may be regarded as better than none at all. The inscription on the other piece, which has the advantage of being larger and clearer, is very similar to that of which a translation has been attempted, and is probably the same text, with variants.

In addition to these roughly-carved lapidary inscriptions, however, a large number of small clay tablets have been found, apparently forming part of the records of income and outlay of some institution or temple. All these texts are written in narrow columns which, like those of the line-inscriptions, also read downwards, but the style is not linear, but distinctly cuneiform. Prof. Scheil's translation, of one of them which I have somewhat modified, reads as follows:

"Tablet of TU-KAK, 17 DA-NUN-SI, 1 AD- , . . 2 ME, 4 BAD, 1003 and a half DUG (?)—BAD, 9 measures of grain, 9½ measures of grain, 2 DUG-GAL."

² The following is a free rendering of the inscription, which is written in the cuneiform character:—

"Karibu-sa-Susinak, viceroy of Susa, governor of the land of Elam, son of Simbishuk, has dedicated the cedar and bronze gatebar to Susinak his lord. May Susinak, Istar, Narute (and) Nergal, remove the foundation and destroy the seed of any who take this inscription away. The name of the gate is 'The support of this house'." According to Scheil, the date of this ruler should be about 2500 B. C.

³ See RECORDS OF THE PAST, Vol. II, pp. 322 et seq.



MAP OF BABYLONIA AND ASSYRIA

The last is probably a kind of large fish.

With reference to the inscriptions of this nature, however, it is needful to say, that one has an uneasy feeling that the characters may not have been pronounced as the Babylonians read them, and that often, when we can translate the words, we do not know their phonetic values, and when we can transcribe them, we do not know their meaning. When this happens, there is no escape from leaving blanks in the renderings, or giving the apparent pronunciations of the somewhat barbarous combinations which the Babylonian syllabaries indicate. With regard to the numerals, their renderings may be looked upon as fairly certain.

But even at Babylon itself at least one linguistic mystery came to light. In 1881 Mr. Rassam found there a contract-tablet referring to the sale, by merchants or tradesmen of that city, of a slave-woman named

Istar-Bābili-siminni, to a man named Urmanû. This text I published in 1883 on account of the strange characters with which the spaces were filled, hoping that some scholar, more versed in strange writings than I was, might find the key to its interpretation. More than a quarter of a century has passed since that publication, but we are no nearer to the finding of an explanation of these mystic signs. Is it a late form of proto-Elamite? or may it be cursive Hittite? Time alone can show.

Most of the tablets bearing these archaic Elamite accounts are small, and measure only a few inches. One of them, however, is so large that it occupies a whole page (quarto) in the great French publication where they are reproduced. The obverse has only two lines of writing, but bears, in two long rows, the impressions of a cylinder-seal, the design of which is repeated, by continuing the impression, about three times in each row. The subject shows a bull, front-face, horned, standing erect manwise, and holding two sitting lions by the ears. A lion in the same position, but profile instead of front-face, holds, by their humps, two humped bulls, the whole making a somewhat grotesque design. The strange character in the field is probably the Babylonian sign for a vase used for offerings, with additions. As in other cases, these seal-impressions are probably from the engraved cylinder of the scribe who wrote the tablet.

Among the artistic discoveries are some excellent examples, in some cases superior even to the work produced by the Babylonians at the period. The most interesting is probably that representing the Babylonian king Narâm-Sin, ruler of Agadé, marching over the mountains in his victorious course. Naturally, there is doubt whether this is Elamite or Babylonian, but it is to be noted that the style reminds one of the Elamite bronze representing marching warriors, which would seem certainly to have been real Elamite work, and this being the case, it is not unlikely that the relief showing Narâm-Sin is Elamite too. It is known that his father, Sargani, or Sargon of Agadé, conquered Elam, but that the dominion of the country passed to his son is uncertain. Whether this monument may be regarded as evidence in favor of that probability I leave to the judgment of my readers.

Another interesting piece of artistic work is the bas-relief representing a woman spinning. She is seated tailor-wise on a large stool before a table covered with wool, whilst a serving-maid behind keeps off the flies, and fans her mistress with a large fan of square form, which she holds. This is in all probability a representation of a woman of the higher classes, and is interesting as giving a glimpse into the Elamite domestic life. The style is probably late, the figures being more thick-set than in the case of the stele of Narâm-Sin and the bronze relief showing marching soldiers. The thick-set type appears in Babylonia about 1200 B. C. The marching soldiers, however, are attributed by Father Scheil to the reign of Sutruk-Nahunta about 1116 B. C., so that it would seem doubtful whether the date can be decided from the type of the figures.

Religious subjects also occur with the proto-Elamite line-inscriptions. This shows the remains of an enormous lion's head, open-jawed, with one forepaw. Kneeling on one knee, and facing the animal, is a deity in a

horned hat, holding with both hands a large cone, apparently brought as an offering. Figures similar to this, cast in bronze, in the round, have been found in Babylonia, and are sometimes called "the god with the fire-stick." They come from Tel-loh, the ancient Lagas, and bear an inscription of the renowned viceroy of that city, Gudea.

It is needless to say, that all these and many other objects of great importance, found at Susa, the ancient capital of Elam, prove the power of that kingdom in ancient times, and show that such a campaign as Chedorlaomer, in the fourteenth chapter of Genesis, is represented as making about 2000 years B. C., is not only possible, but highly probable. With many vicissitudes, she maintained her power until the time of Tepti-Humban, the Teumman of the inscriptions of the Assyrian King Assur-bani-âpli (about 650 B.C.), "the great and noble Asnapper," who intent on absolute supremacy in the East, attacked Elam in three great expeditions, and reduced the country, as he records, to a pitiable state. Having lost her political importance, though not her courage and energy, as still later accounts show, she ceased to attract the historian and traveler, who therefore, to all appearance, passed her over in favor of Nineveh, the capital of the power which had crushed her, and Babylon, the capital of Babylonia, her old ally and foe, by turns. It is only during the reign of the Kharacenian King Hyspasines that the cry of the "enemy, the Elamite," is once again heard in Babylonia, though this was probably only for a short time. Notwithstanding all the wonderful finds that have been made, much more material is required to complete our records, and not among the least interesting would be those referring to the latest period, but documents of every kind will, it is needless to say, be welcomed.

Turning to Elam's western neighbor, Babylonia, we find again that much has been done, this time by the Germans, whose discoveries on the site of Babylon practically make the city live once more, and the time is not far distant when it will be the objective of the modern tourist as much, for instance, as the cities of India with their wonderful remains. According to Delitzsch, Babylon was a comparatively small city, not larger, in his opinion, than Dresden or Munich. The outer wall is shown in the accompanying plan. At the top is the north palace on the east of the Euphrates which at present flows from the northwest. Some distance down begins the Arahtu-canal, which, running in a southerly direction, passed through the southern wall and entered the Euphrates again near the point where it began to resume its southern course. The wall on the left bank of the river was continued on the right bank, and has, on its north side, the middle palace, and on its south the south palace. At this point lie the ruins of the Istar-gate, near the east end of which is the temple called Ê-mah. Canals protected the two adjoining palaces on the north and the south, the former being called the Merodach-canal, and the latter Libil-hegala, "(the canal) 'may it bring fertility.'" The square some distance south of the south palace marks the position of the great temple-tower E-temen-an-ki, "the House of the foundation of Heaven and Earth," explained by the Babylonians as "the Tower of Babylon." South of that lie the ruins of the great temple Ê-sagila, the renowned Temple of Belus. Running parallel with

the Arahtu-canal is the royal street, called, at its northern end, Aa-ibur-sabû. This was used for processions, especially that of the New Year, when the gods were solemnly taken to greet their king, Merodach, as one of the inscriptions brought back from Babylonia by the late George Smith states. The ceremonies at these New Year festivities apparently symbolize the visit of the king of the heavenly host to the captive gods, whom he comforted and released, much to the discontent of Nergal, god of war and disease, and also, as we may suppose, of death—whether he was identical with Ugga, the god of death *par excellence* or not, we do not at present know. The gods in prison were the followers of Tiawath, the Dragon of Chaos at the beginning of the world, and when Merodach destroyed her—the Dragon—her followers were placed in prison and bound. This ceremony of the release of the captive gods took place on the 8th of Nisan, the first month of the Babylonian year, corresponding partly with March and April. At the same time

"The gods, all of them—the gods of
Borsippa, Cuthah, Kis,
and the gods of the cities all,
to take the hands of Kayanu (and) the great lord Merodach
shall go to Babylon, and with him
at the new year's festival, in the sanctuary of the king,
offer gifts before them."

It is also probable that on the same occasion the ruling king of Babylon, whoever he might be, and of whatever faith or nationality (for the Babylonians had been ruled in their time by aliens from all parts of the east), was expected to "take the hand of Bêl," though it may be doubted whether Darius Hystaspis, that stern worshipper of Hormuzd, ever consented to assist in what he must have regarded as a heathen ceremony. This street for the sacred processions in Babylon must, therefore, be regarded as having been the most noted roadway in the city, and we can imagine the long procession passing through the southern gateways, taking part in the ceremonies in the temple of Belus and at the Tower of Babylon connected therewith, crossing the Libil-hengala canal, then passing the royal palace and under the gateway of Istar, to the Chamber of Fate, which is regarded as having been situated at the eastern end of the Merodach canal. The distance from the gate of Uras, which was the city's southern entrance to the Chamber of Fate, was a little over a mile and a quarter. Unfortunately, the remains of the Tower of Babel—that structure so renowned of old—have, within recent years, been cleared away to build the dam of the Hindi-yeh Canal, and instead of a great monument, the depression where its foundations were laid is now all that exists.

As might be expected, the spouse of Merodach, Zêr-panitum, the principal goddess of the Babylonian pantheon, came in for a share of the honors. She appears to have been worshipped at the Tower of Babel along with him, but besides this she had a temple of her own on the east of the Istar gate, and its foundations still exist in a fairly complete state. . . . Enthusiasts will easily imagine what an interesting spot this would be to visit, with its sites from which the glory departed so many hundreds of years ago.

In recent plans of Babylon it will be noticed that the form of the base-ment of the "Tower of Babylon" is square, whilst the old representations of that structure, which many of us have seen in old family Bibles and elsewhere, show it as having been circular in form, and tapering with a spiral ascent until the top was reached. These designs, however, were probably mere creations of the artist, who wished to produce something picturesque, and copied, perhaps, some drawing or description which he had met with of similar spiral towers of later date, which actually occur in the East as minarets of certain mosques. This however was not the shape of the Tower of Babel, which, as we know from the remains found in the country as well as from the ancient descriptions of the structure, was square in form, though the ascent was an inclined one, and though arranged the same way, was straight instead of curved.

The boundary stone of the time of Merodach-baladan I., who reigned about 1167 B. C. (this object was presented to the British Museum by the proprietors of the *Daily Telegraph*), seems to show an erection of this kind in three stages, with a shrine at the top. The horned animal or dragon in front apparently bears on its back a form of the wedge, the symbol of the god Nebo, so that it is possible that the staged tower behind may have stood for one of the emblems of that god. This would naturally form a reason for identifying the great temple-tower of Nebo at Borsippa (the Birs Nimroud) with the Tower of Babel, which is the traditional site of that erection. In all probability, however, the reason for placing the Tower of Babel in "the second Babylon," as Borsippa was called, and not in Babylon proper, lies in the fact that the temple of Nebo at Borsippa was the latest shrine where the ancient Babylonian worship was carried on.

The form of the temple-tower suggested by Perrot and Chipiez, in their *History of Art in Antiquity*, was either with sloping stages, as in the case mentioned above, or with a double ascent and level stages, as in their alternative design. It is doubtful, however, whether the Babylonian architects, notwithstanding their skill, had ever hit upon so elegant a form. The description published by the late G. Smith in the *Athenæum* of February 12, 1876, however, makes the lowest stage to be the greatest in height. Doubt may be expressed as to the outside inclined ascent, with its step-gradines, but some sort of protection would be needed against the accident of falling over the edge, and it is not at all improbable that such a thing existed as in the case of the temple-tower at Dûr-Sargina (Khorsabad), where the French excavations which preceded Layard's were made. According to Sir. H. Layard, moreover, a temple-tower somewhat of this form existed in the city of Calah (Nimroud), and is depicted in the somewhat fanciful restoration prefixed to his *Monuments of Nineveh*. A modification of my original design would, however, in all probability, be desirable; there was probably no ascent clinging, as it were, to the first stage, the top of which would be reached by a central staircase at right angles.³ Similar erections are described as existing in Chinese Turkestan by the traveller, Dr. von Le Coq.

³ See RECORDS OF THE PAST, Vol. II, pp. 322, et seq.

It is a great pity that we cannot appeal to the remains of the monument itself to settle the above question, as well as that of the existence of chambers within. According to Dr. Weissbach, however, the structure measured about 309 feet each way, and the height was about the same. Though this is only a third of the height of Eiffel Tower in Paris, it is still sufficiently imposing as a high monument. As will be seen from the picture, the lowest stage was much higher than any of the others. The topmost stage was the upper temple or sanctuary of the god Bel or Merodach, 80 ft. long, 70 ft. broad and 50 ft. high—a hall of considerable size. Full details concerning the structure were inscribed on a tablet which the late G. Smith had in his hands about 35 years ago, and which has apparently not been seen since. From the description of its contents which that scholar gave, it would seem to have been a document of the first importance, and it is needless to say, that we should all like to come across it again. Comparatively little publicity has as yet been given to the fact that it is wanting, and it is hoped that if the present owner should hear that inquiries have been made, he will be so kind as to produce it so that it may be studied and the results given to the world. Mr. G. Smith, at the time he published his description of the document, was about to start for the East, and it seems probable, therefore, that he saw it in this country. It may, indeed, have been offered for sale by a dealer and been sold by that dealer to its present possessor. It seems to have been a moderately large and fairly complete document, divided into paragraphs, probably by ruled lines.

Cylinders with inscriptions of Nabopolassar are said to have been found on the site when the remains of the Tower of Babylon were carted away some years ago, and in the interesting text which they bear, the king seems to say that it was not until after he had overthrown the power of Subartu (probably Assyria), which took place in the year 606 B.C., that he turned his attention to the rebuilding of Ê-temen-an-ki, "the House of the Foundation of Heaven and Earth," which he further describes, as does also his son Nebuchadnezzar later on as "the tower of Babylon." Nabopolassar died two years later, so that the rebuilding during his reign is reduced to within exceedingly narrow limits. The implements used in the rebuilding of the structure were of an exceedingly costly nature—nothing was too good for the reconstruction of the great temple-tower dedicated to Merodach. It is worthy of note, also, that the tower was to rival the heavens in height, whilst its foundations were regarded as having been placed "on the breast of the underworld." The "stages" seem to be referred to, and at the rear were apparently sanctuaries to Samas, Hadad and Merodach (these are not mentioned in G. Smith's description, though it is implied therein that the couch and golden throne of Merodach, referred to by Herodotus, were in the temple buildings on the western side of the tower). The gold silver and other precious things which Nabopolassar states that he deposited in the foundations must have disappeared many centuries ago, together with the figure of the king carrying a workman's basket similar, in all probability, to those in the British Museum, representing Assur-bani-âpli and his brother Samas-sum-ukin doing the same thing. These were carved to commemorate the restoration, by those rulers, of the temple of

Nebo within Babylon, possibly one of the shrines on the eastern side of the tower.

Besides Nabopolassar, Nebuchadnezzar, his eldest son (who, two years later, succeeded him on the throne of Babylon), took earth, with offerings of wine, sesame-oil, and produce in (it may be supposed) one of the golden baskets which are referred to in the inscription, whilst his brother Nabû-sum-lisir, took a rope and a wagon, in which Nabopolassar had placed a basket of gold and silver, and offered it—or him, his darling (*dudua*)—to the god Merodach. Was this a case of the redemption of the firstborn, and the substitution of his brother, with a gift, in his place? We do not know, and, to say the truth, it seems unlikely, as the kingly office did not prevent him who held it from becoming priest as well as king—indeed, the “great king” was often, at the same time, the great high priest.

Nebuchadnezzar also added to the splendor of this great fane, the type and token of Babylon's greatness. All kinds of precious things were offered by him in Ê-sagila, the great temple of Belus adjoining on the south. He also “raised the head” of Ê-temen-an-ki with burnt brick and white-mottled lapis. After relating all he had done for the adornment of Babylon, the great king goes on to say, that “from Du-azaga, the place of the Fates, the shrine of the Fates, as far as Aa-ibur-sabu^m, the causeway of Babylon, before the gate of my lady (probably Zêr-panitum), with small decorated tiles as the procession-street of Merodach he had decorated the path.”

Here Nebuchadnezzar describes the building and restoration of the walls of the city, and then continues:—

“Aa-ibur-sabu^m, the causeway of Babylon for the procession-street of the great Lord Merodach as a high terrace I filled in, and with small decorated tiles and blocks from a mountain-quarry I perfected Aa-ibur-sabu^m from the Holy Gate as far as Istar-sakipat-têbi-sa Street, for the procession-street of his godhead. And I connected (it) with what my father had made, and beautified the road Istar-sakipat-têbi-sa.”

Though Nebuchadnezzar's description of his many works at Babylon is somewhat tedious to read, it is really very interesting when taken in connection with the ruins themselves, and there is no doubt that the German explorers of the site of the city will procure for students much more material for comparison as time goes on.

Although we, in this country, [England] have not done much—at least no account of British excavations has, of late years, been published, as far as my knowledge goes—our kinsmen over the sea, the Americans, have made some most successful researches in Babylonia. The site which they have more especially explored is that known as Niffer (they say that the word is at present pronounced Noufar), the ancient Nippur (Nifur). This site the Rabbins identified with the Calneh of the tenth chapter of Genesis, which is mentioned after Babel, Erech and Akkad, as one of the first cities of Nimrod's (i. e., Merodach's) kingdom.

Niffer lies on the eastern bank of the Euphrates, but at a distance of about 30 miles from the present course of that river, on the now waterless canal known as the Shatt-en-Nil, which divides it into two parts. Lay-

ard and Loftus give interesting descriptions of the ruin-mounds of this great Babylonian city. It is in the northeast corner of its extensive ruins that the remains of the great tower, resembling that of Babylon, arise. The old Sumerian name of this structure was Ê-kura, probably meaning "the temple of the land," though "Temple of the mountain" (or "Mountain-Temple") is also a possible rendering. It was dedicated to Enlila, who was called "the older Bêl," i. e., not Bel-Merodach, but his divine grandfather. The antiquity of this town and temple was regarded by the Babylonians as being as great as that of the world itself, for the tradition was that Merodach built or created both in the beginning, when Babylon, Erech and Eridu also came into existence. Professor Hilprecht describes this structure as attaining even now a height of 96 ft. above the level of the plain on which the city stood and around lie the fallen walls and buried houses which originally occupied its precincts. The erections here are of various dates, and extend back as far as 2800 years B. C. or earlier.

What the original height of the tower may have been we have no means of ascertaining, but in form it was a tower in stages, like those at Babylon, Borsippa, and elsewhere. Traces of three platforms were laid bare, and Professor Hilprecht says that no remains of a fourth could be detected, and that the accumulations of rubbish on the top were not sufficient to warrant the supposition that there had been ever more than that number.⁴ This, however, is naturally a point which is open to discussion. It is needless to say that, in the days of Babylonia's prosperity, the king's each vied with their predecessors in restoring and perfecting the structure, and changes in its form—slight ones, in all probability—seem to have been made from time to time, the kings who effected them having been Sargon of Agadé, Narâm-Sin, his son, Sur-Engur (2800 B.C.), Dungi, Sur-Ninib, Bûr-Sin, Ismê-Dagan, Kuri-galzu (1400 B.C.), Addu-sum-usur (about 900 B.C.), Esar-haddon (681 B.C.), and others, down to an unknown restorer of the structure 500 B. C. or later.

And here it is worthy of note, that though in the tenth chapter of Genesis the ancient Babylonians are represented as proposing to make brick, and burn them thoroughly, this latter precaution against decay was not always taken, not only here, but also in other places, for the whole seems to have been constructed of small crude bricks, except on the S. E. side of the lowest stage, which was faced with burnt brick of the same size. On each side of the structure, however, were channels of burnt brick to carry off the rain-water, and all four sides were plastered with bitumen in such a way that they sloped gradually outwards towards a gutter which carried the water away. The corners were adjusted roughly to the four cardinal points. The entrance was on the S. E. side, between two walls of burnt brick of the time of Sur-Engur, which led up, apparently by an inclined plain, to the courtyard, which was a large raised platform. It is stated by the explorers that this platform assumed the form of a cross by the addition of long extensions

⁴For description of the excavations at Nippur see RECORDS OF THE PAST, Vol. II, pp. 35-62 and 99-118.

resembling buttresses. Many parts are curiously irregular in shape, and the angles of both enclosure and *ziggurat* (as these temple-towers were called) are not correctly placed, the northern corner of the latter pointing six degrees E. of the magnetic north.

Besides this great structure so closely connected with their religion, many other noteworthy constructions were found—walls, defences, towers, and courts—but not the least interesting were the remains of the houses of the people. A picture from a sketch by Mr. Meyer, published by the Rev. J. P. Peters, the originator of the explorations on the site, shows, in perspective, one of the streets of the city. It looks towards the S. S. W., and runs along the S. E. buttress of the temple-tower. In the middle of the unpaved street is a well-made gutter of burned brick, showing that some provision had been made to free the street of water. As to keeping the streets clean, however, that was another matter, and accumulations of rubbish seem to have been allowed to such an extent, that at last, instead of going up a step to enter a house, they had to make a little stairway to enable it to be entered from above. In all probability, therefore, little or no scavenging took place in this ancient city. Notwithstanding that there was much, from our point of view, which was sordid in the cities of Babylonia, the people of the land thought a great deal of them, and found them to be full of poetry and charm. The reason of this was that they were in many cases the centers of worship which had existed from of old, and they had therefore endeared themselves in this way to the inhabitants. Many cities of the modern East, however, are similar to those of ancient Babylonia in that respect.

In addition to Niffer, the Americans have also been excavating at the ruins known as Bismya, the ancient Adab, according to the tablets. It lies in a sand-swept belt of ancient Babylonia, in a region dangerous and deserted because far from water—a disadvantage which probably did not anciently exist. The discovery of the site seems to have been due to the Rev. J. P. Peters, the first really serious explorer of Niffer. The ruins have but a slight elevation above the surrounding soil, nowhere exceeding 40 ft., and the head of the expedition to Adab, Dr. Edgar J. Banks, describes them as a series of parallel ridges, about a mile and a half wide, divided into two parts by the bed of an old canal—the source of the city's ancient habitability.⁵

On the summit of the temple-tower being cleared, an inscription of Dungi, 2750 B. C., was found, and this discovery was followed by that of one of the time of Sur-Engur, 2800 B. C. Still lower they came upon a crumpled piece of gold of the time of Narâm-Sin, and just below that the large square bricks peculiar to the time of Sargon of Agadé became visible. At a depth of 8½ meters the explorers lighted on two large urns filled with ashes, and two meters lower still a smaller urn. Virgin soil was reached at 14 meters, at which depth the deposits consisted of thrown pottery of graceful design. These Dr. Banks regards as belonging to the most remote period of Babylonian civilization, namely 10,000 years ago, or earlier.

Other noteworthy antiquities were found on the site, among them being a head with a pointed beard, of a type which the finder regards as distinctly

⁵ See RECORDS OF THE PAST, Vol. V, pp. 225-236.

Semitic. The face is long and thin, and eyeballs of ivory had been inserted by means of bitumen in the eye-sockets made to receive them. This type is regarded as being new to the student of Babylonian art, and clearly distinct from the round beardless head of the Sumerian statues. Another object is a vase of blue stone carved with a procession of grotesque long-nosed figures, headed by two musicians playing upon harps. The garments and jewelry, and even the foliage of the background were originally represented by inlaid work, but with the exception of a piece of ivory which formed the dress of one of the figures, and a few fragments of lapis-lazuli in a branch of a tree, these have all disappeared. Numerous important fragments of vases were also found, and a sea-shell used as a lamp will probably shed light on the origin of the shape of early lamps.

In a trench at the western corner of the temple-tower the explorer practically dug out with his own hands an exceedingly interesting statue bearing the name of Daud, an early Sumerian king. Notwithstanding what may have been said on the subject, this is probably not an early occurrence of the name David, which, in Arabic, has that form. The statue was headless, but the head was found a month later, in company with another head, in the same trench, 100 ft. away. The temple excavated on this site bears the same name as that of the spouse of Merodach at Babylon, namely, E-mah, which, if written in the same way, means "the sublime house." Hammurabi, in the introduction to his code of laws, gives the name of one of the temples of Adab as being E-para-galgala, "the house of the great light," or, perhaps better, E-ugal-gala, "the great storm temple." Unfortunately it is a very imperfect account of the excavations at Bismya that I have had to use, or I should be able to give a much better description of the temples of this primitive site.

Three brick stamps were found, all of them with the words "Narâm-Sin, builder of the temple of Istar," testifying to the existence of a fane dedicated to the great goddess of love and war at Adab. Among other still smaller objects that may be mentioned cylinder-seals of the usual Babylonian type, one of them showing the so-called Gilgames and Enki-du—which probably represent entirely different personages—struggling with a lion and a bull respectively. This subject is very common on the engraved cylinders of Babylonia.

An interesting discovery in this site was that of an oval chamber at the south corner of the temple-tower, which, in the opinion of the explorers, had been formerly covered by a dome. At one of its ends was a 6 ft. circular platform, with a pit beneath it 4 ft. deep. The pit was found to contain ashes mixed with sand which had silted in to the depth of about 2 ft. Smoke marks upon the adjoining wall, and the evidences of great heat to which the brick work had been subjected, suggested that it was a crematory. Dr. Banks' description of the probable process of burning the bodies is as follows:—

"The body to be cremated was placed upon the platform; flames from a furnace in an adjoining room, passing through a flue, consumed the bodies, and the smoke passed out through a vent above. The ashes, unmixed with the ashes of the furnace, were either gathered for burial in urns, or swept into the pit below. This crematory, which was duplicated in a second chamber nearby, explains the absence of Babylonian graves."

Remains of dwelling houses with ovens and drainage also came to light.

Concerning the excavations at Tel-loh it is not my intention to speak at length, as I described rather fully many years ago, certain of the finds made by the French explorer, M. Ernest de Sarzec, on that site. It lies in a rather inaccessible region 15 hours north of Mugheir (Ur of the Chaldees) and 12 hours east of Warka (Erech). The principal building probably had its origin at an exceedingly early date—earlier, in all probability, than the time of the viceroy Gudea, who seems to have rebuilt it. In its area of about 174 ft. by 98 ft. it contains an extensive series of rooms—reception rooms, sleeping places, kitchens, etc. In later times the entrances to some of the chambers seem to have been regarded as too public, and they were accordingly partly walled up by a man named Addu-nadin-âhi, who belongs to a period after the date of Alexander.



KING OUR-NINA AND HIS FAMILY FROM TEL-LOH

The discoveries in this little place, strange to say, were much more important than its situation would lead us to expect. It has given us pictures of feats of arms, representations of conquests, and delightful things in the way of architecture, literature, and art. Though its architecture was rather massive for what we should consider to be really good, it is probably owing to this circumstance that the buildings have been preserved to us, and though its art has the same defect in many cases, it has given us the village-chief, and the lady who might well have been his consort and helpmate. There have been preserved to us likewise the god with the fire-stick (as he has been called), inscribed with Gudea's dedicatory inscription to Nin-Girsu, and the remains of the beautiful stele in which Gudea is depicted, led by a priest, into the presence of that same god, who, seated on his throne, waits to receive him. The antiquity of their art is illustrated by those remarkable cylinder-seal impressions bearing the name of En-gal-gala, existing in many forms, all very similar. There will doubtless be much dis-

cussion as to what the subject may mean, but the shouting man and the silent women (if we judge from the mouths of the figures) may have something to tell us as to the manners, customs, and beliefs of the people of that early period—probably 3,500 or 4,000 years before Christ. Of literature of the earliest period we have no real specimens. The work of M. de Sarzec has been very successfully continued by his successor, Colonel Cros.

Among the most important of the discoveries in Babylonia must be noted those of Mr. Rassam, Sir Henry Layard's old lieutenant, and the discoverer of Assur-bani-âpli's splendid palace at Nineveh, whence the finest of the Assyrian reliefs in the British Museum came. It is needless to say that Assyriologists are greatly indebted to him, for the number of the inscriptions which he sent to this country was enormous—hardly less than 100,000, if my memory serves me. Among the sites at which he worked were Kouyunjik (Nineveh); Balawat, where the famous bronze gates were found; Babylon; Borsippa, the site of the great temple of Nebo; Tel-Ibrahim, the site of the Babylonian Cutheh; Dailem, the ancient Dilmu, generally called Dilbat; and, last but not least, Abu-Habbah, the ancient Sippar, one of the great centers of the worship of the sun-god. The now venerable explorer describes this site as being an extensive series of mounds surrounded by a high wall of earth. The mound upon which the principal buildings are erected is about 1300 ft. by 400 ft., and contains, in Mr. Rassam's opinion, at least 300 chambers and halls. Of these he excavated about 130, when the work came to an end by the expiration of the firman.

According to the plan drawn up by Father Scheil, who worked there after Rassam for the Turkish Government, the city wall is an oblong rectangle, curving inwards at the northwestern end, to follow the course of the canal which formed the boundary of the city at that point. It was near that canal, to all appearance, that the *Ziqqurat* or temple-tower stood, but very little of that structure now remains. There were tablets everywhere, and notwithstanding the excavations which have been carried on since those of Rassam, the site is probably by no means exhausted. In these ruins were found the celebrated mace-head of Sargon of Agadé, and in all probability also the equally well-known cylinder-seal of Ibni-sarru, that king's secretary. Then we have the beautiful "sungod-stone" carved for Nabû-abla-iddina—a precious thing which, apparently for safety, they buried under the bitumen pavement. Impressions of the design were made in clay, in case the original should be destroyed, and it was placed in a terra cotta box inscribed with the nature of the contents, so that people should know what it was as soon as they came upon it. Among the texts of late date is an ancient map of the then known world; and the oft quoted cylinder of Nabonidus, which refers to his restoration of the temple of the moon-god at Harran; the date of Narâm-Sin, son of Sargon of Agadé; and other important historical and archæological facts. Except the stone monument of Nabonidus giving details of the murder of Sennacherib and the downfall of Assyria at the hands of the Babylonians and the Medes, Professor Scheil has found nothing equaling in importance the discoveries of Mr. Rassam. Among Prof. Scheil's finds, however, may be mentioned some interesting clay figures of animals—dogs, bears, etc.—the most inter-

esting of them being one of the former resembling a dachshund, and inscribed with the following words:

"To the lady Gula (or)Bau I have made and presented a god of clay."

To all appearances the dog was sacred to Gula, hence this inscription.

We have already seen, from the excavations at Bismya, that the Babylonians burned their dead in early times, and that, after the cremation, the ashes were collected and placed in urns. Ordinary burial, however, was also practiced, but instead of coffins, the custom seems to have been to enclose the body in a large jar before interment. Professor Scheil gives reproductions of some of the gigantic specimens of pottery which he found in which the body was apparently inserted entire.

We know that, in later days, the influence of Assyria extended as far as the Mediterranean, but we cannot say for certain at what date that influence began to make itself felt. Babylon was the pioneer country in that part of the world, however, and the Assyrians, who spoke the same language would naturally inherit the influence when the power of Babylonia began to wane. In all probability a certain amount of light is thrown on this point by the tablets found of late years in Cappadocia, and written in cuneiform characters. These documents consist of contracts and letters, and though the script is Babylonian in style, and the envelopes of the contracts, when they have them, are covered with impressions of cylinder-seals similar to those found in Babylonia, they are also, strange to say dated by means of eponymes—that is, by inserting the name of some official chosen for a year to date by—an exclusively Assyrian custom. These documents cannot be said to be written wholly either in the Babylonian or the Assyrian style, as far as the wording of the contracts is concerned, but with a legal phraseology which seems to antedate them both. The style of the writing is that of about 2000 B. C. or earlier, and notwithstanding possible arguments to the contrary, this may be regarded as their probable date. That Assyria could have had influence as far northwest as Kaisar-ieh, at that early period, seems to be impossible, but perhaps, notwithstanding its seeming dependence on Babylonia, the northern kingdom may have had more power than is at present generally imagined. The great deity of the place seems to have been Asur or Asir, the well-known head of the Assyrian pantheon, so that the influence of Assyria, and not of Babylonia, at that early date, seems to be set beyond a doubt. The dialect, which is Semitic, is peculiar, and of considerable importance. Such of the letters as I have been able to translate are what we should expect from a community living far from its home. The impressions of a cylinder seal on the envelope of an ancient Cappadocian letter, showing a four wheeled chariot, drawn by horses, are of considerable interest.

After this, it is not surprising that Sam'alla, a town at present represented by the ruins of Zenjirli, should have acknowledged, in common with other places in the west, the over-lordship of the great Assyrian king. The inscriptions found at Zenjirli extend from a period preceding the time of the Biblical Tiglath-Pileser (740 B. C.) to the reign of Esarhaddon, and it is probable that the allegiance of the people of Sam'alla only ended with



ESARHADDON HOLDING TWO PRISONERS

the downfall of Assyrian power in 606 B. C. Sam'alla was apparently the capital of an Aramaic state of some antiquity. The most important object of general interest is the stele sculptured with a representation of Esarhaddon holding, by cords attached to their lips, two prisoners, that nearer to him being Tirhakah, the well-known Ethiopian king of Egypt, whose identity is shown by the uræus ornament on his head. On the side are portraits of Panammû, the king of Zenjirli, Esarhaddon's vassal.

The inscription on the stele bearing the representation of Esarhaddon and his captives is noteworthy, as it shows how far Assyrian power extended. Besides the title of King of Assyria, he calls himself also King of Babylon, the King of Sumer and Akkad (practically the same thing), King of Kar Dunias (it is uncertain whether there be any distinction in this, but probably the words "all of them," which follow, explain it, and indicate that Kar-Dunias stands for Babylonia in general), King of kings of Egypt, Patros, and Cush or Ethiopia. He traces his descent in the usual way, namely, through Sennacherib and Sargon to Bêlibnî, son of Adasi, whom he calls the founder of Assyrian dominion (*mukîn sarruti mât Assur*). He then refers to his campaign against Tirhakah (*Tarqû*), King of Egypt and Ethiopia, whom he defeated every day for 15 days, and fought with personally on 5 occasions, taking in the end the city of Memphis. Among the captives were Tirhakah's women-folk and his son Usanahuru. The usual curses against anyone who should take away or destroy this monument, and appeals to future princes to read the inscription and perform the usual ceremonies of anointing etc., close the text.

Though the statue of the god Hadad found there is ugly, the inscription in relief which it bears is exceedingly interesting. It was written for Panammû, King of Sam'alla during the time of Tiglath-Pileser III, who began to reign in 745 B. C. Properly speaking, this statue was not found at Zenjirli, but at Gerchin, about half an hour to the northeast. As Panammû calls himself King of Yaudi, it is clear that that was the name of the district, and we shall have to be careful not to confuse it with the Assyrian *mât Yaudi*, which stands for the Kingdom of Judah. The remaining Aramaic inscriptions give the succession of 6 rulers, who followed in a genealogical line, the later ones at least acknowledging the over-lordship of Assyria.

And now we come to the splendid discoveries, likewise made by the Germans (to whose enterprise the world owes also those at Babylon, Assur, Al Hibba, Zenjirli, and elsewhere) in the ruins near Boghaz-Keuy, the identity of which site is no longer doubtful, any more than is the nationality of the people whose capital the ancient city was.

Boghaz-Keuy, upon which all eyes interested in west Asian exploration are now set, lies 5 days journey west of Angora, and not far from the sculptured rocks of Yasli-kaya. Two classes of tablets were found there, some of them archaic, and pointing, like those from the neighborhood of Kaisarieh, already described, to the period of Hammurabi of Babylonia; the others in a much simpler style, sometimes in Babylonian, but often in that unknown language of which the Arzawan tablets from Tel-el-Amarna are examples and of which provisional renderings have been made by the Scandinavian scholar Knudtzon.

About 2,500 fragments of the kind which had been expected—texts like that in the Museum of the Liverpool Institute of Archaeology and those brought back from that part by M. Ernest Chantre—came to light, many of them being of considerable size. Naturally it was those in the Semitic Babylonian language which occupied the attention of the explorer first, as it is always best to proceed from the known to the unknown. All these inscriptions, which are likely to become the key to the Hittite language, are described as being "Diplomatic documents," like the Tel-el-Amarna tablets.

With regard to those of the nature of letters, it is stated that most of them are from Wasmuaria, or, in full, *Wasmuaria satepua Ria Ria-masesa mai Amana*—that is, as generally read in Egyptian, *User-maat-Ra setep en Ra Ra-messu mery Amen*, i.e., Ramesses II., and Hattusilu, the Chetasar or Hattusir of Egyptologists. It is needless to say, that these new texts promise to change our ideas concerning the pronunciation of Egyptian entirely, and many familiar forms with which Egyptologists have presented us will have to disappear from our histories.

The first great document found was the text of a contract between Hattusilu and *Ria-masesa mai Amana mâr Mimmuaria bin-bin Min-pahri-taria*, that is "Ramesses beloved of Ammon, son of Seti I, grandson of Men-pehti-ra" (to adopt the common spelling), or Ramesses I. Both parties call themselves either "great king, king of Misri (Egypt)" or "king of Hatti," as the case may be, and the whole text of the contract is practically the same

as that found in Egyptian at Karnak. In this new version of the celebrated treaty there is also reference to the text of the silver tablet (*sa ina rikilli muhhi duppi sa sarpi*). The list of Hittite gods, however, is unfortunately wanting. It is noteworthy that the Hittite kings, like their brothers, of Egypt, called themselves "the sun."

In fulness of time we shall probably come to know not only how to translate the so-called Hittite characters, but we shall also learn the names of their deities, of which so many interesting figures exist. We may even find the identity of the so-called pseudo Sesostriis, and that elegant little Hittite king from Bir (Birejik), whose relief has been so many years in the British Museum. There are also numerous Hittite seals, which ought to be of interest when we can read the strange inscriptions with which some of them are engraved.

I have had so much to report upon that I have at present neither time nor space to say anything about the interesting discoveries made at Qal'ah Shergat (Assur), the old capital of Assyria. All being well, however, this will serve for another occasion, should a communication thereon be desired. It is needless to say that the discoveries on that site, which the all-favored Germans have likewise excavated, are of considerable importance. But in order to understand thoroughly the explorations made at Assur, excavations at Nineveh in its larger sense are needed as well—that Nineveh which Jonah is described as having taken three days to traverse. All the points showing traces of ancient towns and cities ought to be explored, and then, perhaps we should find something which would enable us to understand that statement. In any case, much would probably be added to our knowledge, whether excavations were made there or at any other site or sites in Babylonia and Assyria.

THEOPHILUS G. PINCHES.

University College, London



HOLED STONE.—Some time ago a farmer at Kerro, St. Just-in-Penwith, Cornwall, reported the finding of a large stone with a hole in the center. On 14 August, 1907, Mr. H. King and Mr. B. C. Polkinghorne had the ground cleared around it and found it to be a circular slab of granite 48 in. in diameter and 12 to 14 in. thick. In the center was a cylindrical hole, 8 in. in diameter, and 8 in. deep, apparently worked by the use of iron tools. The interior surface was smooth, showing no tool marks. Upon raising the stone, pieces of granite which had held it in a horizontal position were disclosed. Underneath much charcoal, but no bone, was found. The hole contained plant debris. The investigators suggest that the hollow was a receptacle for cremated bones, if not for a small urn; and since the excavations, one of them has seen a small circular slab found some years ago near the same spot; possibly it was the cover.

BOOK REVIEWS

HAVERFORD COLLECTION OF CUNEIFORM TABLETS¹

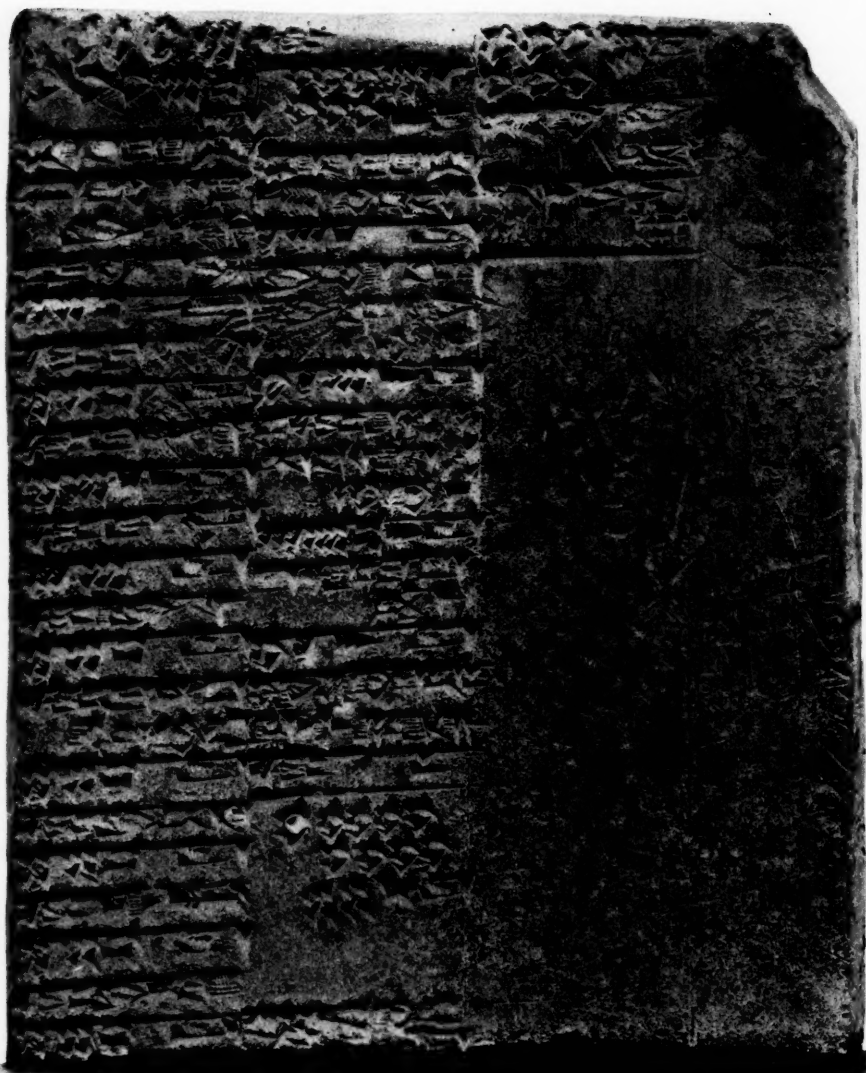
IN HIS introduction, Professor Barton discusses what he terms "two unique tablets" which are in the general shape of a tag. The inscription of the one he reads "4 kors and 81 qa of wheat flour, boat of Ur-Kal, account of Manati. 6th day, month Zibku." The tablet also bears a seal impression. The other tablet reads, "2 kors 10 qa of wheat flour, day 26th." The seal impression of this tablet reads: "Gal-Ninshakh scribe, son of Ur-Ningirsu." Barton concludes that they are Old Babylonian bills of lading and perhaps were retained in the archives as duplicates of those delivered to the boatmen who conveyed the grain to its destination. Such tablets, termed labels or tags, are quite numerous. The designation "bill of lading" in this instance seems appropriate. Others would be more properly called tags, having been hung upon the necks of sheep; also upon the necks of slaves. Such are inscribed "Sheep belonging to the shepherd X;" and "Slave belonging to X," respectively. Others are labels containing the address of the individual for whom the article sent was intended, often containing, as Barton's tablets do, the seal of the sender.

In his discussion of "Messenger Tablets" dated in the reign of Dungi and Bur-Sin, Barton shows that they furnish certain information concerning the political organization of the empire. Nippur, Susa, Adamdun and Sabu were at this time ruled by pateses. Seventeen other cities, including Anshan, are ruled over by NIN-MI, "governors." More than one-third of the references are payments to officials in connection with trips to Susa. This leads Barton to conclude that, inasmuch as Ur, the capital of Ur dynasty, is only mentioned two or three times, Susa was the place of residence of Dungi and Bur-Sin, and especially as Susa at this time was a subject power and also because Dungi had rebuilt the temple of that city.

One of the most important additions to our knowledge which this volume makes is the determination of 11 new numerical values. Barton finds that the totals in an account tablet published by him reveal a new numeral, which can be shown by the sum of the items composing the total to designate 216,000. He then observes that the same numeral occurs in a tablet said to belong to the I dynasty of Babylon, the text of which was copied and published by Hilprecht (BE, XX, No. 29). It appeared in a series with several others, but has never been interpreted. Barton shows, by a study of the method of arranging numbers on the Nippur tablet, that these numbers represent successive multiples of 36,000, and are therefore notations for 72,000; 108,000; 144,000; 180,000; 216,000. As the notation for this last number coincides with that discovered on the tablet published by Barton himself, the correctness of his reading of the whole series is demonstra-

¹ *Haverford Library Collection of Cuneiform Tablets, or Documents from the Temple Archives of Telloh.* Autographed and edited by George A. Barton, Professor in Bryn Mawr College, Part II. Philadelphia: J. C. Winston Company, 1909.

Professor Barton issued Part I of this work in 1905. Other parts are expected to follow, the last of which will include full indices of names, etc. The tablets are all written in Sumerian.



HAVERFORD COLLEGE COLLECTION, 27. PLATE 64

RECORD OF QUANTITIES OF LAND APPROPRIATED BY THE KING AND
ENTRUSTED TO VARIOUS OFFICERS. LENGTH, $6\frac{1}{2}$ IN.; WIDTH $5\frac{1}{2}$ IN.;
THICKNESS, $1\frac{1}{8}$ IN. NO DATE GIVEN.



CLAY LABELS OR TAGS HAVING HOLES THROUGH WHICH A CORD PASSED. SOME CONTAIN THE SEAL IMPRESSIONS OF THE SENDER, WHILE OTHERS CONTAIN RECORDS;—"ONE SHEEP, THE SHEPHERD UZIILU."

ted. He then brings the list of numerals in the text published in the *Babylonian Expedition* into comparison with a Neo-Babylonian syllabary published in CT., XII, 24, from which the definitions are broken away, and finds the same series. This series has a different notation for 216,000. He rightly infers that this is another notation for that number, and finds confirmation of this in a variant of the tablet in BE. On the tablets published in BE two numerical notations remain. Having discovered the principle on which the numbers on the tablet were arranged, Barton shows that these can only designate 432,000. He then notes that there are two remaining numerals on the Neo-Babylonian tablet in CT, XII. A comparison of these with the numbers on the University of Pennsylvania tablet shows that they are clearly abbreviated forms of notations already identified for 216,000 and 432,000.

Barton has not only added the correct reading of these numerical notations to our knowledge, but has shown that the numbers in the Neo-Babylonian syllabary were copied from a list similar to the earlier one copied by Hilprecht.

Professor Barton's work is an important contribution to the reconstruction of the Babylonian system of writing mathematical terms. Beside the points of historical value which have been mentioned, he has determined other facts such as the price of wheat in this pre-Abrahamic age. This work, also, is an important contribution to sumeriology. It is to be hoped he will be able to bring the publication of these records to a speedy completion.

ALBERT T. CLAY.

University of Pennsylvania.

BABYLONIAN LEGAL AND BUSINESS DOCUMENTS¹

THE volume contains 138 autograph copies of tablets, half of which were found at Nippur, and half at other Babylonian sites, chiefly Sippar. Not a few of the Sippar documents and practically all of the Nippur, are written in Sumerian. This work will stand as a monument to Poebel's ability and industry, inasmuch as he is a self taught Sumerian scholar and has besides this volume, contributed an important paper on Sumerian grammar to one of the scientific journals. In this volume he devotes himself especially to the grammatical explanation of the Sumerian tablets.

From the inscriptions found at Nippur belonging to the time of Hammurabi, about 2000 B. C. Poebel shows that the various kinds of documents were drawn up according to fixed rules. There existed special schemes for the different classes of documents, according to which they were drawn up, for example, purchase and exchange documents, division of an inheritance, adoption and manumission documents, marriage contracts, deeds of loan, leases, etc., were all written according to fixed formulas. Poebel shows that these schemes took the place of a mental formula into which it was only necessary to insert the description of the object and the names of the parties in the contract. He refers in this connection to the famous so-called Sumerian family code, which indeed is no code at all, but certain parts of such formulas written up for the use of the lawyers or scribes, who had to draw up marriage contracts, adoption documents, deeds of leases, etc. We thus get a very valuable inside glance into the work of the official scribes as well as their law schools of that age. By this method their work was facilitated and became rather mechanical, as at the present time, when printed blanks are generally used.

Poebel shows that such fixed schemes existed also in other Babylonian towns, on the whole resembling the Nippur schemes, but differing from them in a great number of more or less important details. We obtain by this observation a most efficient means of determining the place of origin of contract tablets.

Another marked feature of the Nippur tablets is treated in Chapter III. The seal impression, whenever a contract was sworn to, was not made with a seal owned by the individual, but with a seal expressly cut for the occasion by an official engraver, called the *burgul*, who besides the scribe is always mentioned in these contracts.

Chapter IV contains a compilation of all date formulas as far as they are known occurring on tablets of the First Dynasty from Hammurabi down to the end of the Dynasty. In these earlier times it was not the custom to date contracts by the year of a king's reign as later, but with a

¹ *Babylonian Legal and Business Documents from the Time of the First Dynasty of Babylon, Chiefly from Nippur.* By Arno Poebel, Ph.D. (Being Series A, Volume VI, Part 2 of the Babylonian Expedition of the University of Pennsylvania; edited by H. V. Hilprecht.) Published by the Department of Archaeology with the Eckley Brinton Coxe, Jr., Fund.

formula which mentioned an event occurring in the respective year, as *e. g.*, the year in which King X, on New Year's day dedicated a statue, weapon, or the like, to god Marduk. The list of these date formulas, which are practically all written in Sumerian, is important from more than one point of view. It is a means to reconstruct the history of the time, as Poebel has done in Chapter VI, inasmuch as a great number of historical events are alluded to in these formulas. As the dates mention, and often describe the votive objects presented to the gods, this list gives us important information also with regard to the Babylonian religion of that time. The formulas are very valuable for our knowledge of Sumerian, especially on account of the great number of variants which Poebel has presented in a very careful manner.

In Chapter VI Poebel gives an outline of the history of the First Dynasty from Hammurabi to Samsuditana. This is based upon the chronicle which has been recently published by Dr. King of the British Museum, also upon the inscription and letters of Hammurabi and his successors, and the code of Hammurabi, and especially on the information derived from the date formulas. This is the first time that such a sketch has been outlined in such a comprehensive manner.

As to the contents of this sketch, mention may only be made to Poebel's conclusions from two tablets published by him. The first tablet (No. 68) is dated in the reign of Ili-ma-ilum, which Poebel formerly showed to be a contemporary of King Samsuditana, and identical with the first king of the so-called Second Dynasty. This conclusion has been fully corroborated by the publication of a Babylonian chronicle by Dr. King of the British Museum.

The second tablet, the date of which had been published before, though incorrectly, and misunderstood, gives us, according to Poebel's translation, the important information that a fight took place between King Samsuiluna and another prince with the west Semitic name Jadh-abu. The conflict ended with the defeat of the latter.

In Chapter VII Poebel translated a Sumerian inscription (No. 130 of his volume) of an earlier king. This inscription, which so far as the almost entirely destroyed reverse shows was a donation to a temple, was witnessed by several governors and was rewritten and dated in the time of the First Dynasty. Fortunately the obverse, which relates the exploits of the king, especially the capture of a town, Al Halim, is better preserved.

This volume is a valuable addition to the series of which it is a part, and a very important contribution to Sumeriology, a science which not a few Americans have helped to firmly establish.

ALBERT T. CLAY.

University of Pennsylvania.



RECENT BULLETINS OF THE BUREAU OF AMERICAN ETHNOLOGY

BULLETINS numbered 38 and 41 of the Bureau of American Ethnology have recently appeared. Number 38 is by Nathaniel B. Emerson on the *Unwritten Literature of Hawaii*, the sacred songs of the Hula collected and translated with notes and an account of the Hula. This is the first of a series on Hawaiian ethnology which has been made possible by the act of Congress 30 June, 1906, which extended the field of the Bureau to include the natives of the Hawaiian Islands. Previous to this their operations were restricted to the American Indians.

This Bulletin contains a wealth of native Hawaiian songs which it will be impossible to collect a few years hence. These, together with the remarks of the author, give an interesting insight into the artistic sensibilities of the earlier Hawaiians.

Mr. Emerson does not dwell on the origin or migration of the native Hawaiians, but their custom of practicing one of their dances—The Hula Ohelo—about a fireplace, indicates that the origin of the dance must go back to a time when they lived in a more rigorous climate than Hawaii offers. "The fact," he says, "that the climate of the islands, except in the mountains and uplands, is rarely so cold as to make it necessary to gather about a fire seems to argue that the custom of practicing this dance about a fireplace must have originated in some land of climate more austere than Hawaii."

Bulletin 41 is by Jesse Walter Fewkes on the *Antiquities of the Mesa Verde National Park* and deals with the Spruce Tree House. The numerous illustrations taken before and after the extensive repairs made by Dr. Fewkes indicate the value of his careful work, which will not only preserve this interesting "type ruin" but make its original appearance more evident to the casual visitor as well as the archæologist.

His conclusions are worth quoting:

From the preceding facts it is evident that the people who once inhabited Spruce-tree House were not highly developed in culture, although the buildings show an advanced order of architecture for aborigines of North America. Architecturally the cliff-dwellings excel pueblos of more recent construction.

The pottery is not inferior to that of other parts of the Southwest, but has fewer symbols and is not as fine or varied in colors as that from Sikyatki or from Casas Grandes in Sonora. It is better than the pottery from the Casa Grande and other compounds of the Gila and about the same in texture and symbols as that from Chelly canyon and Chaco canyon.

The remaining minor antiquities, as cloth, basketry, wood and bone, are of the same general character as those found elsewhere in the Southwest. Shell work is practically lacking; no objects made from marine shells have been found.

The picture of culture drawn from what we know of the life at Spruce-tree House is practically the same as that of a pueblo like Walpi at the time of its discovery by whites, and until about 50 years ago. The people were farmers, timid, industrious, and superstitious. The women were skillful potters and made fine baskets. The men made cloth of good quality and cultivated corn, beans, and melons.

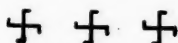
In the long winters the kivas served as the lounging places for the men who were engaged in an almost constant round of ceremonies of dramatic character, which took

the place of the pleasures of the chase. They never ventured far from home and rarely met strangers. They had all those unsocial characteristics which an isolated life fosters.

What language they spoke, and whether various Mesa Verde Houses had the same language, at present no one can tell. The culture was self-centered and apparently well developed. It is not known whether it originated in the Mesa Verde canyons or was completely evolved when it reached there.

Although we know little about the culture of the prehistoric inhabitants of Mesa Verde, it does not follow that we cannot find out more. There are many ruins awaiting exploration in this region and future work will reveal much which has been so long hidden.

The pressure of outside tribes, or what may be called human environment, probably had much to do originally with the choice of caves for houses, and the magnificent caverns of the Mesa Verde naturally attracted men as favorable sites for their houses. The habit of huddling together in a limited space, necessitated by a life in the cliffs, possibly developed the composite form which still persists in the pueblo form of architecture

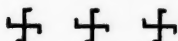


THE LAST AMERICAN FRONTIER¹

PIONEER life has a peculiar fascination, and so a survey of the development of our frontier is of general interest. Under the title of *The Last American Frontier*, Professor Frederic L. Paxson has written a very interesting account of our frontier history in its steady westward movement. The author claims that the "influence of the frontier has been the strongest single factor in American history, exerting its power from the first days of the earliest settlements down to the last years of the XIX century, when the frontier left the map."

The history and development of the different trails across the country and their effect on the settlement of the land is very interestingly told, as well as the last of the Indian wars and uprisings, and the first entrance of the railroads.

The book is of a popular character, the references to the sources being confined to a few pages at the end of the volume. However, in the *Preface* Mr. Paxson states that he hopes "before many years, to exploit in a larger and more elaborate form the mass of detailed information on which this sketch is based." Such a volume would be of great value to the more specialized historians and it is to be hoped that it may be forthcoming in the near future.



PREHISTORIC CONGRESS OF FRANCE.—The Prehistoric Congress of France will hold its sixth session at Toures 21-27 August, 1910. Interesting excursions, as well as visits to local museums, private collections and archaeological monuments have been planned. Among the subjects for discussion are the Palæolithic remains in Touraine, the geographical distribution of the flint industries of the Grand Pressigny and the *puits funéraires* of the basin of the Loire.

¹ *The Last American Frontier*. By Frederic Logan Paxson. Illustrated. Pp. ix, 402. Price \$1.50, net. The Macmillan Company, New York.

EDITORIAL NOTES

EXPEDITION FROM UNIVERSITY OF UTAH.—Under the auspices of the University of Utah, Professor Byron Cummings in 1909 carried on archaeological excavations in the San Juan country. A large quantity of material was obtained, and the work was otherwise successful.

POSSIBLE EVIDENCE OF HUMAN SACRIFICE AT BABYLON.—H. de Genouillac has published a Babylonian tablet which contains a dedication of slaves in the same terms in which animals were devoted for sacrifice, which seems to indicate that these were designed as victims for human sacrifice.

PORK IN ANCIENT BABYLONIA.—According to A. Ungnad, pork was highly valued as food in the time of Hammurabi and was offered as part of the sacrifices in the temples. There is a record of the severe punishment of a thief who stole a pig from the temple court, and lists of temple-provisions mention various parts of swine.

A ROMAN MILITARY DIPLOMA.—A few years ago a military diploma was found at Tricornum, Italy. It is now in the museum at Belgrade. It is engraved on both sides of a bronze plate about 6 in. by 5.9 in. and is dated 29 June, 120 A. D. Its inscription proves that Hadrian held the *tribunicia potestas* for the fourth time in that year.

THUMB MARKS IN BABYLONIA.—C. H. W. Johns has published in the *Proceedings of the Society of Biblical Archaeology* fragments of a Babylonian tablet which seem to show an attempt to draw, on an enlarged scale, thumb marks as made on clay. This suggests the question, Were thumb marks used for the purpose of identification in Babylonia?

PUNISHMENT OF SLAVES AT ATHENS.—Whipping was used in Greece as a punishment for slaves. At Athens the number of stripes inflicted for any given offence appears to have been equal to the number of drachmas fine for a free man for the same crime; the number was proportioned to the deed, and a magistrate was forbidden to inflict more than 50. In Athens the slave had certain legal rights, and the laws concerning their punishment, were more humane than in other parts of Greece.

GREEK INFLUENCE IN ORIENTAL ART.—In a recent article, Adolf Fischer calls attention to certain oriental statues which show the influence of Greek art. He cited in particular a wooden statue of the goddess of Mercy and two female statues of dried lacquer which show soft round lines in the drapery and graceful forms which recall Greek work. The bronze statue of Kwanyin at Tatsingör, near Peking, also shows this Greco-Indian influence. A series of Chinese grave-reliefs which he reproduces show great similarity to chariot processions in Assyrian or Babylonian sculptures.

ARCHÆOLOGICAL TOUR IN TIBET.—The Indian government has sent Mr. A. H. Francke on an archæological tour in British Western Tibet. Interesting results are likely to follow. At Leh, he discovered the graves of some Dard chieftans containing ancient earthen pots and metal ornaments. The method of burial was somewhat similar to that practiced in Egypt. He has also made finds near Tsaparang, the kingdom mentioned by Andrada in 1623 and claims to have deciphered the legend of the seal of the Dalai Lama of Tibet as "May you be happy!"

THREE IRON AGE GRAVES IN DENMARK.—The Copenhagen Museum of Antiquities has recently published a description of the finds in 3 Iron Age graves discovered in the island of Lolland, southern Denmark. One of the 3 female skeletons found had been buried with much jewelry, a pearl necklace, gold and silver ornaments of unique workmanship, silver buckles and hairpins and a gold finger ring. The grave with its contents has been placed in the Museum, together with some Roman glass, bronze household utensils, bearing the name of the Roman maker, and a small box of toilet articles also found with the body.

THE PEABODY MUSEUM EXPEDITION TO SOUTH AMERICA.—The Peabody Museum Expedition to South America returned to Cambridge last year. The past 3 years were spent in explorations on the headwaters of the Amazon, studying the native tribes of the little-known regions of the interior of Peru and Bolivia. A large amount of material along various anthropological lines was gathered. Collections were made of implements, weapons, utensils, ornaments and articles of dress. Incidentally, natural history collections were made, meteorological observations taken and topographical work done.

CYCLOPEAN WALL IN CEYLON.—In *Man*, 1909, 104, Mr. J. B. Andrews reports on some early defensive works visited by him in Ceylon. They consist of a cyclopean wall surrounding Mapagala Hill, close to the famous rock fortress of Sigiri. It is similar to others found in England and France. Enormous unhewn stones are piled on top of one another without the use of mortar. It is probably of Neolithic date. Similar fragments of walls exist on Sigiri Hill, but most of the walls there are different, the stones being smaller, more regular, and put together with some order. These latter ones are attributed to King Kasyapa, about 500 A. D.

ARCHÆOLOGICAL COURSES IN UNIVERSITY COLLEGE.—"Professor Ernest Gardner is giving in connection with University College, London, this session the following courses in Classical Archæology: (1) 'Archæology in Relation to Literature,' extending from 'Literature and Archæology,' delivered last Friday to 'Alexandrian and Roman Poets,' March 18; (2) 'Classes for the Study and Discussion of Archæological Subjects;' (3) 'Greek Sculpture: Later Period,' which began last Thursday week; (4) 'The Yates Lectures,' on Vases, Epigraphy etc.; and (5) 'Lectures in Greece,' which will be arranged to fit into the Easter vacation." [*Athenæum*, London, Jan. 29.]

INDICATIONS OF HITTITES IN GREECE.—"New readings of cuneiform texts with the names of the Hittite kings of the XIV century B.C. show one of the names to be identical with that of Myrtilus, or Myrsilus, the charioteer of Pelops, and seem to put new meaning into the old legends of Amazons and other Asia Minor peoples who came in contact with the Greeks on both sides of the Ægean. Another important discovery is the purely Aryan and Sanscrit character of the names of gods worshiped by a people who adjoined the Hittites on the east and were closely connected with them. This suggests an eastern channel for the entrance of Aryan influences into Asia Minor and Greece, in addition to the northern one by way of Thrace and Phrygia."

SECTION OF THE ANCIENT DEFENSES OF MEXICO FOUND.—According to reports from the City of Mexico, workmen digging a trench for a water main in the street known as Calle Cincode Mayo, came upon a large amount of piling. This had been thought to have formed a pier in the lake surrounding the ancient city, but now experts say that it served as a palisade intended to protect the Aztec capital from the brigantines which Cortes had built upon the lake. At this point Lake Texcoco formerly washed the base of the teocalli, or shrine of the Aztecs. The supposition is that the city was unprotected here and therefore these pointed cypress stakes were driven in during the siege so that their tops were just concealed by the water. They are in a good state of preservation.

CONGRESS OF AMERICANISTS.—In recognition of the centenary of the independence of Argentine and Mexico, the sessions of the International Congress of Americanists for 1910 will be held in Buenos Aires, May 16 to 21, and in the city of Mexico, September 8 to 14. "It is proposed to organize a trip for the members by land from the northwest frontier of Bolivia and Peru taking ship for Mexico at the Port of Callao. In Bolivia and Peru various places of archaeological interest will be visited. From Lake Titicaca the excursion will visit Potosi, La Paz and Tiahuanaco, and proceed to Puno and Cuzco. Going by train to the Port of Mollendo, by steamer thence to Callao, Lima and various cemeteries and ruins of importance will be seen, such as Ancon, Pachacamac, etc."

THE COLIGNY CALENDAR.—At a recent meeting of the British Academy, Sir John Rhys discussed the Coligny calendar, found in 1897. The fragments of the bronze tablet containing the calendar inscription were found at Coligny, 10 miles north of Lyons. Other fragments with no inscriptions were also discovered which, when fitted together, formed an almost perfect statue of a god, probably the god of the temple where the tablet was set up. The tablet was nearly 5 ft. long by 3 ft. wide, and proved to be a calendar for 5 years. The language was Celtic but not Gaulish, and seemed to fit into an early stage of what became the Irish language as known in old manuscripts and inscriptions. Two intercalary months were included. One of them stood before the month of Samonios or June, and marked that as the beginning of the year, the other came in the third year in front of the

first month of the other half of the year, *i. e.*, Giamonios, or December. The first year was most correct, astronomically speaking, and Rivros or August was the most important month in it. Rivros was named after the god Rivos, who seems to have been considered as living among his people during that month, or part of it. In the other 4 years his priest seems to have represented him.

POSITION OF SPARTAN ART.—In a paper read before the annual open meeting of the British School at Athens on 17 December, 1909 Mr. M. S. Thompson declared that the usual statement that Sparta was inartistic as compared with the rest of Greece should be modified in view of the examples of Laconian art from the VIII and VII centuries B. C. The series of carved ivories, ending suddenly about 600 B. C., is evidence that Sparta was for a long time closely connected with the East. The probable route over which this ivory came into Sparta was along the southern islands of the Ægean, so that the capture of the Achæan seaport Helos, about the end of the XI century, B. C., would coincide with the beginning of the abundance of ivory in Laconian art. The abrupt cessation of this trade about 600 B. C. seems due first to the rise of Median power and the political upheaval in Asia Minor involving the fall of Nineveh and the siege of Tyre and, secondly, to the commercial rivalry of Naucratis combined with the extension of Ionian enterprise in the south. Possibly this loss of trade induced Sparta's interference in Ionian politics in the VI century, B. C. In conclusion, Mr. Thompson pointed out that the historical accounts of Sparta, written from the Athenian standpoint, refer to the period of her artistic decline and isolation. Apparently during the VIII and VII centuries Spartan enterprise was outside the sphere of Ionian expansion and this may account for the fact that the best period of Spartan culture is unrecorded in history.

WORK AT CORBRIDGE-ON-TYNE, ENGLAND.—During the season of 1909 work was carried on at Corbridge-on-Tyne in front of the two large granaries which showed that each of these buildings had a portico of 4 pillars. The portico of the east granary appears to be contemporary with the building. It has masonry columns, originally plastered. The other part is of later date, probably of the time of Severus, when the granary itself seems to have been rebuilt. In front of the "Fountain" postholes of an early wooden building were found, about 9 ft. below the present surface. The "Fountain" is possibly from as late a date as the time of Severus. Remains of what was probably the watercourse supplying the "Fountain" during the later part of the Roman period were traced. At one part the clay bank which supported it crossed the remains of a granary about 56 ft. long, the floors of which were raised on cross walls and masonry piles. In one corner of this was a rubbish pit where fragments of Samian ware were found, indicating an occupation of the site in the I century, A. D., and possibly in the time of Agricola.

North of this was a bath house, with a pillard hypocaust under the 3 rooms, and 2 apses of later date, one of which was probably the cold bath. Near by were the remains of a smelting furnace, in which a pig of iron weigh-

ing 3 hundredweight was found. What was probably the north ditch of the town was also discovered. Traces of cobble pavements and a small piece of wall were found on the north side.

The most notable among the objects found were a baked clay mould for a figure 5 in. high, with helmet, shield and crooked club, and a stone panel with two draped female figures, one representing Fortune, holding a cornucopia and a rudder.

END OF THE WORK AT THE SANCTUARY OF ARTEMIS ORTHIA, AT SPARTA.—The British School at Athens, after 4 season's work, have concluded the excavations at the sanctuary of Artemis Orthia at Spatra, so that now its whole history may be traced. The earliest remains found comprise a layer of ashes, pottery and fragments of bronze resting on virgin soil in a hollow by the bed of the Eurotas. Successive altars and temples were built upon this spot. The old wood and brick temple was superseded at the beginning of the VI century by a stone temple in the archaic Doric style, with a colored pedimental group of lions; this temple was reconstructed in the Hellenistic period. At the beginning of the III century, A. D., a theater was built around the altar with the facade of the temple in the position of the stage building. Here many spectators witnessed the scourging of the boys, which formed a part of the rites in honor of the goddess. During all periods the altar occupied the same position, and the remains of 4 superimposed altars have been found.

Among the newly discovered objects may be mentioned a figure relating to the goddess of child-birth, Eileithyia, who was worshiped near by and two groups, one in terra cotta and the other in ivory, each representing a man and two women. Pausanias notes that, at a certain Spartan sanctuary, Artemis, Eileithyia and Apollo Carneius were worshiped together; it seems likely that these groups represent these 3 deities.

WORK OF THE SCHOOL OF AMERICAN ARCHÆOLOGY AT SANTA FÉ.—Dr. Edgar L. Hewett, Director of the School of American Archæology, authorizes the following statement concerning the work of the School and the Museum of American Archæology at Santa Fé:

"The first of the Pajarito rooms is finished, the collections are being installed, and the room will be open to the inspection of the public from now [17 Feb., 1910] on, as a specimen of what the School is trying to accomplish, by way of representing the ancient civilizations of the southwest. The art work in these rooms, which has already attracted wide attention, is supported by Frank Springer, of Las Vegas.

"The work of the historian Bandelier on the documentary history of the Rio Grande valley is well along, Mr. Bandelier's introductory report having been sent in for publication. This work on the early history of New Mexico is made possible by the generosity of Mrs. John Hays Hammond of Washington City.

"Miss Anna L. Wolcott of Denver has contributed the funds for the equipment of a laboratory for the precise recording of the vanishing languages, myths and songs of the Indian tribes. The instruments for this

work have been ordered from Paris, and will be installed within a few weeks. This will be the principal laboratory for this class of work in America.

"The National Museum of the United States has returned to our Museum a valuable collection of material from the Cliff Dwellings in the Pajarito Park, which was sent to Washington some years ago, and has entered into a system of exchanges with our Museum which will result in the placing here of valuable collections from various parts of the country. The secretary of the Smithsonian Institution has expressed his great satisfaction with the development of a first-class museum in Santa Fé, and the willingness of the Institution and the National Museum to assist in its upbuilding now that its permanence and character is assured.

"The Bureau of American Ethnology has joined with the School of American Ethnology here for researches in the archæology and ethnology of New Mexico. Work under this joint agreement will begin on the Jemez plateau in May and continue until October. By this joint arrangement a much larger amount of work will be accomplished in the southwest than heretofore. The results of the researches will be published by the national government.

"A series of publications have been started for the purpose of making known the results of the work of the School and Museum under the name of *The Papers of the School of American Archæology*. Ten numbers of the papers are already published, and will be ready for distribution within a few days. About ten more papers are almost ready for the press, and will be issued during the year. These papers will be kept on sale at the Museum.

"An expedition starts from Santa Fé this week, for the exploration of ancient ruins in Guatemala and Honduras. This expedition is financed by the St. Louis branch of the Institute."

WOODEN PORTRAIT STATUE FROM THE CONGO STATE.

—Mr. E. Torday has taken to London 4 portrait statues in wood, the likenesses of former chiefs of the BuShongo nation. Inasmuch as it has been usually thought that the art of portraiture in the round in Africa was confined to ancient Egypt, these finds are very important. The most interesting one dates, according to tradition, from the first decade of the XVII century. The others are from the XVIII century. The wood is extremely hard, with a short grain like that of mahogany, and capable of taking a very high polish. The chief represented in the oldest figure sits cross legged, holding in his left hand the ceremonial weapon carried by adult men, his right hand resting on his knee. He wears a flat cap. Arms and shoulders are decorated with armlets, bangles and bands of cowries. The head is shaved except for a lock on the crown, which is coiled under his cap, and a small lock at the back of the head. Around his waist are two belts, one of the cowries, the other of plaited fiber. This latter is the insignia of a chief; from it a small apron hangs down behind. In front of the figure, is a model of the board for playing mancala, or lela as it is called locally. The statue is a little over a foot and a half high. It is incorrectly proportioned, but is lifelike in spite of that. The face is particularly well done, as are also the ears. The legs are entirely inadequate. The surface

was highly polished with the crimson *tukula*-wood paste, which enhanced the reddish tint of the wood.

This chief, named Shamba Bologongo, is number 93 in the list of kings, beginning with the creation; the present ruler is number 121. Shamba is the great national hero, not a military hero, but a man of peace, a patron of arts and crafts and a political organizer. Before taking the throne, tradition states, he made a long journey into other countries, and brought back tobacco, the art of weaving and the game *lela*. He reorganized the hierarchy of officials through whom the empire was governed, providing for the representation at court of the various trades. His soldiers were instructed to wound only, not to kill.

It is said that he caused his portrait to be carved so that later generations might remember him after his death, and that his people might receive comfort in hours of trial when they gazed upon his statue.



PERFORATORS OF WISCONSIN

The *Wisconsin Archeologist* for April 1909 contains an article by George A. West on *Chipped Flint Perforators of Wisconsin* which is of such interest that it seems well to print an abstract of it.

Perforators were among the earliest tools that man needed and learned to make and use. Probably a thorn or a splinter of wood was the first perforator, followed by a splinter of stone. Then as he came to use flint tipped arrows, he found that they, rotated between the hands made excellent perforators. Later he learned to add sand and water and found that a simple wooden point would hold the sand best. "Thus we find that the evolution of the most primitive drill known to man has resulted in the product of to-day, run by steam or electricity. The main improvement in this tool, being in causing it to revolve more rapidly, for the principle involved remains unchanged."

The awl, probably the most primitive of all perforators, as used in Wisconsin until a recent date, was most frequently made of bone and antler.

The straight shaft drill, twirled between the palms of the hands was the one used exclusively by the nations of this continent at the time of the Spanish invasion. It consisted of a shaft with a rounded point used with sand, or sand and water, and frequently tipped with a solid point of flint or copper.

The fire-stick is similar. The point is inserted in a shallow depression in a piece of dry wood and the shaft rapidly revolved between the hands until the dust ignites. This method was in use in Wisconsin when first visited by white men.

A hollow shaft, made from elder or sumach was also used. A short tube of bone, horn or copper was sometimes attached to a solid shaft and used as a drill point. In this case sand, dry or wet, was a necessary addition. Much less material had to be cut away with such a drill. The object to be perforated was held between the feet or toes.

The forms of flint perforators found in Wisconsin are the same, for the most part, as those found elsewhere in America. The various shapes usually indicate the manner of use rather than the work they were intended to perform. Those with wide, flat bases were evidently for use between the fingers and thumb. Others that are thin and without broad base or notches may have been mounted in handles; still others with notches were evidently intended for attachment to a shaft by means of lashings. The thick points, especially if worn from use, were probably used in drilling stone while the more fragile ones were awls, lances, etching-tools, chisels, gouges, needles, bodkins, fish-hooks, or even arrow and spear points.

A great variety of materials was used in Wisconsin; the most common were flint or chert, jasper, chalcedony, quartzite, porphyry, rhyolite and crystal quartz. The colors, also show much variety.

Among the peculiar forms is one representing a flying bird. Such forms have an expanding, convex tail or base, "with gracefully curved shoulders and barbs, which suddenly contract into a short, slim blade and sharp point resembling the head and outstretched neck of a flying bird. This and some related styles may have been employed as amulets or ornaments."

A common form in Wisconsin is simply a rough flake with one end worked to a sharp point. Occasionally a broad-bladed arrowhead was transformed into a perforator by the secondary chipping of its point.

The awls, bodkins and needles found are either of bone, antler, stone or copper. The bodkin used in sewing, weaving, basketry, making tents, nets, and bark canoes was usually made of antler, bone or wood and provided with a smooth rounded blade, tapering to a sharp point. Such an instrument is still used among the Menomonee Indians of northern Wisconsin in the manufacture of birch bark canoes.

Beads of various materials, perforated teeth, bear claws, wampum, gorgets and pendants were probably perforated with small stone drills, from both sides.

Native copper implements were doubtless employed in various ways. They are classified according to the shape as needles, awls, drills, picks, punches and cylinders. The needles are of the same kind as those commonly in use at present.

Many of the copper implements were provided with handles. A specimen with antler handle $1\frac{1}{4}$ in. long was found near Kenosha, Wisconsin, on the shore of Lake Michigan a few years ago. The exposed part of the copper awl is $1\frac{1}{8}$ in long.

Probably the best examples of drilling in stone by the Wisconsin aborigines are in the stone pipes. Some of the pipe stems show evidence of the use of more than one kind of tool—sometimes as many as 4 were used. In some cases metal drills have been employed.

That the stem hole as well as the bowl cavity, was sometimes started with a stone pointed drill, and bored as far as possible without endangering its brittle blade, is quite certain. The bore was then enlarged by a rimmer or larger drill point; again the smaller drill was used and thus by repeating the process, the bore was carried to the desired length. An unfinished rectangular pipe, of Barron county catlinite in the writer's collection nicely illustrates this manner of making a bowl or stem hole, so far as starting

the bore is concerned. In its partly drilled stem hole was found the fractured tip of a slim stone drill securely wedged fast. The broken bowl lays bare a narrow drill hole, an inch in depth.

Mr. West made some experiments, the results of which he describes as follows:

The writer, with a strong beveled jasper point set into a shaft of about the same weight as an ordinary arrow and revolved between the palms of the hands, was able to drill through an inch of catlinite in 40 minutes. By adding dry, sharp sand, it required but 32 minutes to make a similar bore. It was found that by adding water the cuttings became a paste that adhered to the drill point, retarding its work, and compelling the frequent cleaning of it by scraping. In drilling slate or other stone, excepting catlinite, the addition of water greatly facilitates the work.

With the same drill point, set into a shaft weighing about 10 pounds, and used with dry sand, a hole an inch in depth was drilled into catlinite in 22 minutes. To bore through an inch pine board required exactly 5 minutes, and for an inch of dry maple, less than 16 minutes.

It might be interesting to note that, although the writer drilled 9 holes, each an inch in depth, into a block of catlinite, using the same jasper drill point, without the addition of sand and water, it showed but slight evidence of having been used. In drilling the first hole, the weak, projecting points were broken away, giving it the appearance of having been slightly re-chipped. The grinding and polishing of the drill point, resulting from this rather severe test, was scarcely noticeable. These experiments seem to indicate that many of the so-called perforators that show little or no wear, may have performed considerable service in drilling.

In boring steatite, slate, sandstone or limestone, with a stone point, without water, the drill usually begins to choke up and bind at the depth of about half an inch. By the addition of water, or water and sand, this difficulty is much lessened and the work made easier.

As a sand-stick, the writer tried pine, basswood, maple, ash, hickory and the tip of a cow's horn, filed to the desired size. The pine was found to be too soft, especially, when water was added; hickory so hard that the sand would not sufficiently bed or adhere to it, and maple but slightly better in this respect. Ash proved to be the most durable of the woods, and the horn far superior to any in holding the sharp sand and in retaining its shape.

With an ash rod $\frac{3}{4}$ in. in diameter, 3 ft. long, with a rounded point, and the use of sharp sand, made by crushing quartz crystals between two stones, the writer was able to drill a cone-shaped hole into Barron county catlinite, an inch deep and of the same width at the mouth of the cavity, in 66 minutes. With the horn point, both sand and water being used, a hole of the same dimensions was drilled into this rock in 48 minutes. The bore is necessarily larger than the drill point. If the drill, throughout the operation, could be held without variation from side to side, the hole bored would be the width of the drill plus that of the sand adhering to it; but it is hard to avoid a wobbling motion, which tends still further to enlarge the hole. All holes made with the sand-stick gradually become cone-shaped because of the rapidly wearing away of the shoulders of the drill point.

Catlin saw the Dakota Indians of Minnesota boring their pipe stems with a stick and sharp sand. Copper was almost unknown in the country visited by him.

With a copper awl 5 in. long, set into a shaft 3 ft. long, and with the addition of dry quartz sand, the writer succeeded in drilling a hole 3 in. deep into the end of a piece of catlinite in 55 minutes. This hole was half an inch wide at one end and tapered to a point at the other. It was as cleanly cut and of the same shape as the stem hole of the ordinary Siouan calumet.

By using the same drill in a brace, that it might be more rapidly revolved and be given greater pressure, the same depth was reached in less than 40 minutes. The hotter the drill became through friction, the more rapidly it seemed to cut. It was found that by occasionally roughening the drill, by pounding it with a piece of rock, the sand was allowed to bed and cut with greater rapidity.

